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THE BUILDER

VOL. CII.—No. 3810. APRIL 12, 1912.

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The Weir Cottage Hospital, Balham. (*See page* 424.)
Mr. R. J. Thomson, F.R.I.B.A., Architect.

PATRIOTISM AND ARCHITECTURE.

ALTHOUGH the patriotic point of view so ably put forward by Mr. Voysey in his paper at the Architectural Association is one which cannot safely be neglected, we are not altogether surprised that he failed to carry the meeting with him. As Mr. Keen rightly enough points out, the appeal really was to the feelings, and not to the judgment of the meeting. Considering the strength of this appeal and the unquestioned truth of so many of the statements on which it was founded, the fact that the meeting decided to exercise its judgment adversely to his contention should go far to persuade Mr. Voysey that the present age does not show so strong an emotional tendency to swing in any direction—imitative or otherwise—as he appears to think. The present generation has largely outgrown the sentimentalism of the previous one and demands an appeal to reason. It is really endeavouring—if Mr. Voysey would only believe it—to obtain that balance between reason and emotion which we agree with him is so necessary to success.

Since the break up of tradition we have no doubt seen style follow style in a procession of passing fashions founded on the sentiment or whim of the moment to which Mr. Voysey's accusations might rightly apply, but from this emotional tendency to swing in one direction after another we have at length discovered that something more than emotion or imitative faculty is required.

This, in our judgment, is the strength of the movement which Mr. Voysey deplores. It is a movement of mind, not merely a movement of sentiment; a movement towards the more intelligent study of foreign work, based on the solid foundation of reason and common sense.

We imagine that the days of indiscriminate and unintelligent imitation are over and done with, and that everyone now realises that, as Mr. Voysey says, "it is far more important to know from what general principles good work is produced than to have a knowledge only fitted to reproduce given examples." In spite of evidence brought forward to the contrary, we are convinced that this is the spirit in which foreign study is now undertaken, and in which great progress is now being made.

Unless we are to consider Mr. Voysey's contention to be a piece of special pleading deliberately put forward to provoke discussion, we cannot help feeling that he is tilting at windmills. The idols at which he throws mud are no longer worshipped with the same enthusiasm as heretofore. In assuming a shrine still exists in Tufton-street he hardly does justice to the intelligence of the members of the Association.

It is surely a question of intelligence, not of patriotism. Each and every member would wish to be as patriotic as Mr. Voysey himself, but fortunately, we think, for the future of architecture they appear to take a different view of the meaning of the word.

We must say we are not quite sure of the wisdom of introducing ethical terms into a discussion on art, but if we must use this word in relation to architecture, let us be very careful to discriminate. Patriotism in the real and highest sense of the word is a lofty and ennobling virtue, but in the lowest sense of the

word it is little better than a selfish, a stupid, and a degrading vice.

Of the patriotism that exalts country over self, that sacrifices all personal interests for the good of the State, we cannot have too much either in architecture or elsewhere; but it is just that narrow-minded, self-satisfied provincialism so characteristic of the lowest form of patriotism which is far more responsible for the deficiencies of our present-day architecture than are the crude attempts to profit by foreign experience upon which Mr. Voysey is so unnecessarily severe.

If our architecture is in the future to hold its own as a fine art with music and literature, and to accurately interpret and adequately express the highest aspirations of the spirit of the age, it seems to need more of the virtue of patriotism and less of the limited outlook into which it so frequently degenerates.

Although we must all recognise that a building, growing as it does from the very soil of a country, is necessarily more affected by local influences than any other form of art, and though we all admit that we cannot ignore these influences even if we would, yet we have to ask ourselves whether all these various local distinctions of material or of method are really the essential qualities of architecture. Are the local peculiarities that differentiate a French from an English cathedral of the same date essential qualities or more in the nature of incidental or even accidental ones? Is there not some quality in architecture which, including all this, is yet above and beyond it, and is not this aspect of our art the one which is really of the most vital importance to us all?

Do not all the greatest masterpieces of art of whatever description rise far above the expression of local or even national characteristics? Do the symphonies and sonatas of Beethoven or the operas of Wagner appeal only to the national sentiment of Germany? Is a statue by Michelangelo typically Italian, or a portrait by Velazquez typically Spanish? If so, is this its essential quality—its *raison d'être?* Is it not rather its limitation—the measure of its distance from perfection?

Is it not enough for art to be simply human? To appeal direct to the heart of humanity, to the elemental instinct and feelings common to all nations and races alike? And does it not there find its only free expression and attain thereby its most overwhelming effects?

So in architecture it would be possible to imagine a Classic or a Gothic which, had it been free from arbitrary national limitations and divisions, might, by the combined effort of the whole of Western humanity, have attained to even greater height, and expressed even more clearly and forcibly those eternal truths which are independent of political or geographical divisions.

Although to the student or connoisseur of architecture nothing is more interesting and instructive than to trace the effect on the architecture of the past of the ever-varying groups or nations into which humanity has from time to time been divided, he is yet bound to realise that all such divisions are temporary only, and that the essential truths of architecture do not depend upon them.

Whatever the remote future may hold in store, nothing seems more certain than the general tendency of humanity in the immediate future to obliterate rather than accentuate all unnecessary distinctions, to combine in a few large confederations rather than to split up into many small sections, to endeavour by a free exchange of ideas to arrive at a general community of sentiment.

It is only reasonable to presume that if architecture is to keep pace with the upward progress of humanity that the same tendency must be visible here; but this tendency does not seem to be fostered by a deliberate ignorance of all ideas but our own.

The essential truths of architecture are founded on the essential facts of nature and of human life. Although no one would wish to dispute the obvious fact that local and national differences of sentiment must be considered, yet they must not be over-emphasised to the detriment of less obvious but more vital essentials. After all, such distinctions are only variations of the theme. The theme itself is architecture, not its local or national variations.

NOTES.

London University Site. MR. WILLIAM WOODWARD, in a letter to the *Times*, makes the suggestion that the Botanic Gardens, Regent's Park, might be considered a suitable site for the new London University. For reasons that have long been well recognised, these gardens do not fulfil their original functions, and their advantages as a site are reinforced by the proximity of the new Bedford College and the Royal Academy of Music. While we feel that this site would be far superior to the fragmentary and expensive areas at the back of the British Museum, the obvious disadvantage of the suggested position is its apparent isolation from other buildings, which creates an undesirable feeling of remoteness from the activities with which a university should be in touch; but this might easily be overcome, without great detriment to the Park, by including in the scheme a strip about 500 ft. wide, extending to York Gate, to be occupied by a fine approach avenue lined on either side by detached blocks of a monumental character suitable for occupation by various sections of the organisation. Provided it is not carried too far, the aspect of a cloistral seclusion is not altogether out of harmony with the purposes of a university, and up to the present we have not seen any suggestion that meets the conflicting claims so adequately as this one by Mr. Woodward.

Federal Capital City, Australia. THOSE who have sent in designs for the laying-out of the Capital City at Canberra will be specially interested in the announcement of the names of the adjudicators. They are Mr. J. M. Coate, surveyor (Chairman), Mr. J. A. Smith, President of the Victorian Institute of Civil Engineers, and Mr. John Kirkpatrick, architect, of Sydney, with Mr. C. J. Clarke, architect, of Tasmania, as Secretary. Apart from those directly concerned, the whole profession will note with regret that no pre-eminent architect has been appointed to assist in settling the award. The status of the gentlemen composing the Board is high locally, no doubt, but for an international competition of this magnitude and interest it was desirable that eminent judges should have been chosen from Great Britain, America, and Australia, if not from the Continent. These nominations should have been made beforehand, of course, and competitors should not have been told merely that their work would be judged by "an engineer, an architect, and a licensed surveyor." The competition has been conducted in a way that has not inspired confidence, and we can only hope that the result will be, by good fortune rather than by good management, more successful than the Commonwealth deserves. If it be not, we must admit that it would be wiser, having made the awards, to start afresh, as a lesser evil than the adoption for all time of an inadequate and unsuitable scheme.

The Abuse of Advertising. THE Japanese have now a well-earned reputation for their genius in adapting the ideas of other nations and most efficiently putting them into practice. Mr. Richardson Evans, the Chairman of the "Scapa" Society, writes to the *Times* that Count Hayashi during his visit to England was so impressed with the work inaugurated by this Society for the protection of our scenery that he determined to apply the same principles in Japan, and from the text of the Act published in Mr. Evans's letter it appears that the Japanese have now legislation on this subject, which is far more efficient and practical than that provided in this country by the Regulation of Advertisements Act, 1907. In saying this we must, however, in no way be taken to disparage the Act which was obtained through the exertions of the "Scapa" Society. The full effect of that Act was postponed from coming into operation for a period of five years, and, as we pointed out in the *Builder*, September 22, 1911, great difficulty has been experienced in drafting by-laws under the Act which shall be deemed *intra vires*. There is now reason to believe that this difficulty has been overcome, and when the period of five years comes to an end in August next the benefit of the Act will no doubt be experienced in our country districts. Mr. Richardson Evans moreover writes that the Society is now promoting a Bill which is intended to secure "a reasonable standard of grace, dignity, and interest in the aspect of our towns."

Street Accidents and Street Shelters. THE recent return relating to street accidents during the year 1911 furnishes subject for reflection. The number of accidents known to the public in the United Kingdom was 35,210, an increase of nearly 3,000 on the previous year, this increase being chiefly due to accidents caused by mechanically-propelled vehicles. In 1904 the total number of street accidents was only some 22,568, so in the seven years

...e street accidents have increased by ...early 13,000. No doubt the mixed ...affic with vehicles of different speeds ...as considerably enhanced the dangers ...f the streets from both horse-drawn and ...otor traffic, but there is another con...deration to which attention may well ...e drawn, especially in the metropolis. ...he street widening schemes which have ...een carried into execution during the ...st few years have rendered crossings ...ore dangerous to nervous persons. A ...ide thoroughfare crowded with traffic ...f varying speeds is even a trial to the ...rongest nerves, and with the widening ...f thoroughfares and the extension of ...affic sufficient attention has not been ...iven to the erection of street shelters. ...With a death roll of 410 and personal ...njuries numbering 15,254 in the ...etropolis alone this is a question which ...alls for prompt consideration.

The Byzantine Revival.

Mr. W. G. Renwick, as quoted in the *Standard*, is not altogether happy in ...is list of the architects responsible for ...he resuscitation of the Byzantine style in modern work. Mr. T. G. Jackson and Mr. Bentley we recognise, but Mr. Bodley, Mr. Garner, and Mr. Fellowes-Prynne have concerned themselves far less with Byzantine art than many others we could name. Without mentioning others, Mr. R. W. Schultz and Mr. S. Barnsley are surely entitled to a place on such a list.

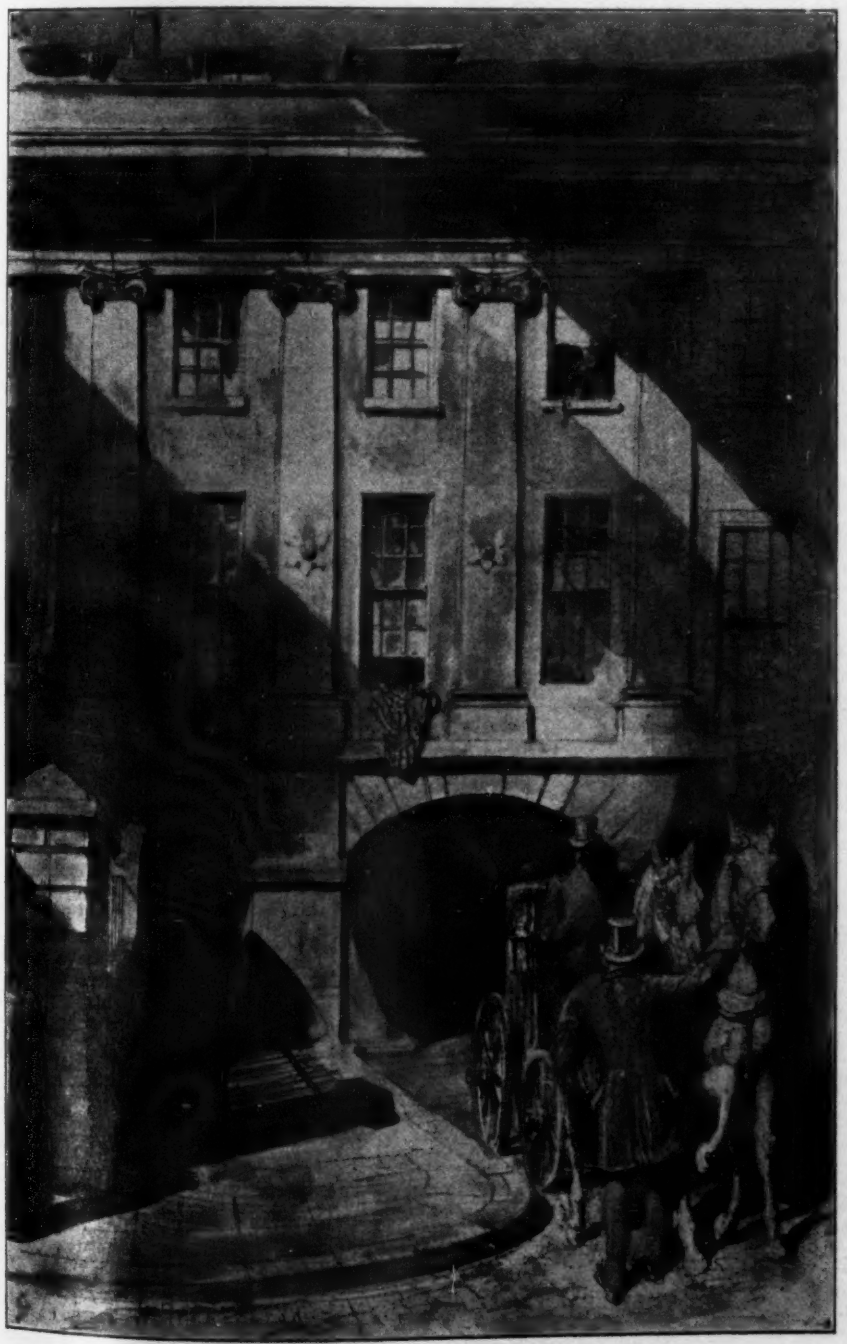
OLD HOUSES IN LINCOLN'S INN-FIELDS.

The old houses, with the archways under them, were for some two and a half centuries a familiar landmark of Old London. The passage communicated between Lincoln's Inn-fields and Duke-street.

The design of the façade has been attributed, not apparently without reason, to Inigo Jones, for it seems to bear much of the stamp of his grave manner.

The centre house at one time contained a mission-room and priest's residence, in connexion with the old church of SS. Anselm and Cecilia, which stood hard by, and doubtless, with its neighbours, looked down on many a strange scene, as when, in 1780, the Gordon rioters made a bonfire in the street of the furniture and fittings of the church.

The houses were demolished January, 1912.



Old Houses, Lincoln's Inn-fields, W.C. (now demolished).

From a Drawing by Mr. A. C. Conrade.

THE ARCHITECTURAL ASSOCIATION CAMERA, SKETCH, AND DEBATE CLUB.

At a recent meeting of the Camera, Sketch, and Debate Club of the Architectural Association Mr. Alan Snow read a paper entitled "Neo-Grec?" in the course of which he said:—

"I shall endeavour to give you the arguments upon which I base my two contentions that a purely Greek style, with colonnades, pediments, etc., is absolutely unfitted for our uses and requirements, and that the manner of building at present known as Neo-Grec is not Greek at all, neither in the spirit of its design nor the actuality of its appearance. Those of you who have come expecting a prescription for the cure of all architectural ills will, I am afraid, be disappointed, for amongst these ailments I am of opinion that what most of us know as Neo-Grec should find its right place. I myself have a different conception of a new Greek style, which I will give you later on. Most past styles, as they have been left to us, are in themselves unsuited to modern conditions in England, but of them all it seems to me that Greek is the most unsuitable. The charm of Greek buildings is in their shape as much as in their detail; in their long and low proportion. How can we transplant this into the tall modern building? We may maintain the same general proportion in the building, although its size is greatly increased. But do we really imagine that by adopting in our larger edifices a similar treatment to that which the Greeks gave to their smaller ones we are perpetuating Greek architecture? We are not; we are deluding ourselves. Sometimes perhaps we may fitly use Greek forms for details, unless we can think of better, but even then they can only be used as a basis to work upon, not as a copy. Where we go so far wrong is in increasing the size of the details as we increase that of the building; in enlarging things that were only meant to be small; in using them as our models, the Greeks never used them, and in combining them with features which they either did not know or did not use.

Greek architecture in England is joyless and cold—as cold as the Greek costume would be, and for the same reason. It was designed for a warmer, sunnier land. This is felt even by those who attempt to practise it, as we can see by the way in which it becomes embellished. I was going to say enriched, but embellished seems somehow to express better the result we see. In this embellishment, and in the increase in scale already referred to, its Greek character disappears, the simplcity of Greek is gone, and in its place is richness and extravagance; the architecture is Romanised. We are doing just what the Romans did; we have turned our Philistine minds to Greek architecture, and produced a manner as far in spirit, proportion, and character from its beautiful inspiration as it could be.

What is the distinguishing characteristic of this great style? Is it not simplicity—a simplicity possible only because of the small size of even their greatest buildings? It is simple, too, because it adhered to one method only of building, and developed that until it could go no farther. It was so simple that we can use it in connexion with only one feature—the pier. The Greeks evolved two forms of pier, round and square, always used separately. The distinguishing mark of our latest Neo-Grec erections is the use of the half-round stuck on to the square, the reasonableness of which proceeding will not bear examination.

No modern building built in a purely academic Greek manner, using only Greek details and features, is Greek in spirit. Greek art itself would have been different in a different environment. Had we learnt truly the lessons left us by the Greeks we should never indulge in this literal, uncomprehending transcription of their style. We should not ignore all that has happened since—they did not. They did not invent an original architecture all their own. They, too, studied the past, and their understanding of study was the correct one—the selection and perfection of certain features. Study means selection. They selected one method of construction, not one manner of design, and throughout all the variations which they used it is never obscured, and the refinement and ornamentation which the crude essentials of this method underwent were all directed to the emphasising of the functions

of the various parts—the vertical lines of the columns, the horizontal lines of the architrave which they supported, and the projecting lines of the cornice. They evolved an "Order" of building, and only by a strict adherence to this was possible the perfection they achieved.

By a close and never-ceasing study of construction they developed their wonderfully beautiful architecture—as perfect a style as the world has seen, but not so perfect as to be universally applicable. We are told that "there is nothing in the world of art that is not Greek in its origin." This is not more true than that there is no one in this world who is not a descendant of Adam, and the one statement really means no more than the other. Everything has its beginning; even Greek had its origins, and that of Adam has been traced back to fishes, and even further, but I cannot see that either are of any account in considering modern conditions. Some may hold that the salvation of the world lies in a return to the conditions of Eden, and some the hope of architecture in a return to those of early Greece. I quite disagree with both, for neither can be right until the population of the world is small enough to be gathered together in either of these favoured regions.

The Greeks were able to pursue the study of one particular manner of building, and bring it to its very simple perfection, only by the comparative isolation of their land and the extreme simplicity of their mode of life. If we could live again as they did, well and good, but we cannot. In the hey-day of Greek art there was no unemployment, no competition. Each man was sure of a livelihood; each man was sure of the boundless leisure required for the completion of a perfect work of art. The land was self-supporting, and foreign intercourse was strongly discouraged during the great period of Greek art; nothing was needed, nothing obtained from other countries, either spiritually or materially, and the laws and customs were largely directed towards the restriction of population, thus avoiding the necessity of emigration. The commencement of the decline in all Greek art can be dated from the relaxation of these restrictions, from the time when the land ceased to be self-supporting. We can never return to this old Greek ideal of being sufficient unto ourselves in these days of enormous and shifting populations.

We can never return to the old Greek dependence on the most elementary of all forms of building construction. We cannot get away from the fact that we know more than the Greeks in every department of human knowledge. We may not be wiser, but we know more.

The greatest legacy that the Greeks have left us is their recognition of the æsthetic element in construction, and since their days the great successes of architecture have been due to great engineering. The Romans were great architects entirely because they were great engineers; there is little of real beauty in their buildings, but they are supremely wonderful, and wonder is one of the elements of fine architecture. We wonder at Greek perfection, and at Roman engineering, and at the marvellous combination of both that we call Byzantine. The men of the Middle Ages were great architects, too, entirely by virtue of their skill and daring in building, in the successful engineering of their materials: the history of mediæval architecture is one of continual engineering development.

It is most important to note that all of these great styles of architecture arose through continual experiment; therein lay their life. Renaissance, too, was a living art so long as it remained true to experimental construction. Immediately it was assumed that this had reached its final stage, immediately architecture became academic and merely a matter of adaptation, then all life and joy departed from it.

In Greek and Roman, in Gothic and Byzantine supreme art accompanied supreme construction. We shall see that this must be, as the perfect craftsmanship and clear vision that are necessary to achieve greatness in art are the very qualities necessary also for the achievement of greatness in construction. To this fact is due the feeling that comes to us when contemplating the great monuments of the past—a feeling that they are inevitably what they are—that they took the shape they did not through the conscious caprice of their builders, but through the force of circumstances beyond their control. They were as much the product of their age and circumstance as the feudal system, party politics, or the steam locomotive of theirs. It is through this feeling that as they are so must they have been that we derive the satisfaction and contentment that is ours in their contemplation. We view with equal pleasure the Parthenon, the Pantheon, or Notre Dame, unless we are architectural bigots, and to these I may add the Forth Bridge and the Gare d'Orléans—classic instances by now. This pleasure is not one peculiar to architects, but one shared by them with anyone of susceptibility—anyone capable of intellectual pleasure. In short, these great buildings are not merely beautiful, but they are significant—they have a meaning and a beauty apart from the decorative forms in which they are clothed, forms in themselves accidental. It is this significance that raises them to the highest plane as artistic achievements. To adapt a paragraph from Baldwin Brown's "The Fine Arts," "their harmonious subdivision and play of part against part, which make the life of their architecture, was readily evolved from the constructive forms that had their basis in utility." It was by the arrangement of their essential constructive forms to secure the greatest convenience, economy, and strength that they obtained their splendid results—by what we understand as planning.

Is architecture going to stand alone? Is our "modern style" to be the first of all to separate itself from the intellectual life of the age? Or are we going to be Neo-Grec in all our arts? Shall we breakfast with Neo-Grec porridge plates, take tea from subtly-moulded Neo-Grec cups, go to sea in Neo-Grec galleys, and clothe ourselves in scanty, if picturesque raiment? This is no frivolity; an art that has anything in it should permeate the whole artistic life of the nation, and certainly its devotees, if sincere, should be prepared to see it do so, and wish that it should. Are you prepared for this? Do you wish that it should happen? If you are, and do, I can do nothing for your case; if not, you stand condemned. Art is thus reflected in all the life of ancient Greece, and in Roman, Byzantine, and even Renaissance times. Cannot we all identify the smallest thing dating from any one of these periods? Are we to mount even higher on our pedestals, from which Mr. Burns recently and quite justifiably beseeched us to descend?

St. George's Hall, an unique building, was brought into being by an unique problem, and it and other similar buildings are no material for argument either for or against a general adoption of the style, any more than is that other unique building, the Liverpool Cathedral, in itself a justification for the condemnation or universal adoption of Gothic.

The only real argument for the adoption of Greek would be that its forms can be so arranged as to obtain qualities otherwise impossible of achievement. Apart from the fact that argument of this character places architecture no higher than scene painting or mural decoration, it is certainly not the case. Fine architecture has another set of principles to which it must adhere—fitness to purpose, climate, and other conditions peculiar to each country. With these as our guide, all that can be urged for Greek can be urged for any other style; it becomes merely a matter of personal predilection, and not of principle at all.

We may feel from the study of Greek that all other architecture is incompletely worked out, but why throw up the sponge? Why not work it out? Why not attempt something? Might we not find that we too had produced something worth while? Or are we just to take the easy road—to quiet our architectural conscience (there is such a thing), and steal and borrow our architectural forms, stifle our architectural intellect and kill originality of thought?

"There is no substitute for thought." Every reference to the past should increase the mental labour of the inquirer, not serve as another modern labour-saving device, as it so generally does. He must endeavour to find out why each feature that he examines is as he finds it; discover its purpose and determine its suitability both for that and the use which he proposes to make of it. By such methods it should be possible to build up a satisfactory philosophy or Order of architectural design; by so doing we should arrive at a method of building beautifully that would be truly Greek in spirit—of which the plans and constructive forms would be absolutely modern, but nevertheless profoundly influenced by past achievements. In it we might well find that many of the details were based on Greek forms, simply because certain features were so well studied by the Greeks and brought by them to such perfection, that we are hardly likely to be able to improve them. Such a modern style would include not only the post and lintel system of building, which is all that the Greeks bequeathed to us, and which alone is far too small an equipment for our requirements, but also the round and pointed arch, the vault, and the dome.

Must we fall back on engineers for construction, and Greek and Roman for our clothing of it? Have we no wit or imagination? There is more charm and originality in Georgian than in this revived Roman. It is the great fault of the average architect that he does not take advantage of his opportunities as an artist—that is, he does not set out to create something, but at the first opportunity harks back to what someone else has done, both constructively and decoratively. How can his art improve if he accepts the conclusion that the best has been done, and there is nothing left for him to do but adopt and adapt the ideas of other men? If I really thought this I would never have become an architect, but rather an engineer or a playwright. To be so hide-bound and fettered would be intolerable. We are not free to do as we like—far from it—but there is no need to so imprison our intellects. That is what seems to me most missing in modern English architecture—intellect—the mental grappling with and overcoming of our problems. We are still as much amateurs as Lord Burlington, with not one-half of the excuse."

ARCHITECTS FROM GEORGE IV. TO GEORGE V.

A MEETING of the Glasgow Institute of Architects was held on February 14, when Mr. Maurice B. Adams read a paper on this subject, from which we take the following extracts:—

"Evolution in design had spent itself by the time of George III. No tradition worth mentioning remained, and our most accomplished achievements henceforward were due to individual example. Academicalism had reigned long enough. "The Neo-Classic period," which has been divided thus, extended from 1666 to 1820; the Formative period, from 1666 to 1720; the Palladian period, from 1720 to 1760, and the Formal school, which ended in 1820. War and fire have generally contributed to the advance of architecture, and since the era of the Middle Ages the one outstanding event which had the most immediate influence upon subsequent building art in this country was the Great Fire of London in 1666. Wren thus was given his opportunity, and although the governing authorities then failed to realise theirs, in not adopting Sir Christopher's plan for the lay-out of the metropolis, the great thing that did matter was his rebuilding of St. Paul's and his many churches in the City, not forgetting Greenwich Hospital. The second conflagration to be mentioned as of architectural import was the burning of the old Houses of Parliament in 1834. These two events coupled in this way define the beginning and the end of the "Neo-Classicism" of English building. Till the turn of the tide of fashion towards the closing years of the last century, indigenous architecture became associated more or less with the "Gothic revival." So little attention indeed was devoted fifty years ago to Classic work that it would have acquired an inspired prophet to have foretold the change which our children have witnessed, and no one could have thought it probable that the praise of Soane and his school would find expression in the early days of the XXth century. Belcher and Macartney's book on "The Later Renaissance" helped to bring about this swing in the pendulum. Long prior to the Georges, beauty, colour, and grace had succumbed to the Puritans, the Revolution, and the iron hand of Cromwell. Houses were grey, with flat roofs and hopelessly dull interiors, although some of the better sort exhibited a somewhat architecturally contrived plan, recognising vistas by making one room lead out of the other. A reaction so early as the dawn of the XIXth century evinced signs of activity, but so little was mediæval art comprehended that it was generally spoken of as "the English style," ignoring the historic art of Europe. Wyatt was building Fonthill

Abbey, known as "Beckford's folly," on an enormous scale with puerile and petty detail, but an advance was registered when John Shaw erected the clever church of St. Dunstan's in the West in Fleet-street, and added a respectable deception to Christ's Hospital in so-called "Gothic." The new courts of St. John's College, Cambridge, described as "a monstrous pile of ugliness," were put up by Thomas Rickman, the Quaker, to whom we owe the invention of the nomenclature of the English Periods of Architecture in his "Attempt to Discriminate," published, with "The Classic Orders" as a preface in 1819. Porden had built Eaton Hall, and Atkinson, a pupil of Wyatt, carried out "Abbotsford" for Sir Walter Scott. Augustus Pugin with Le Keux informed the educated public by their illustrations of Normandy and other mediæval work, thus paving the way for the turbulent crusade against Pagan inconsequence so vigorously undertaken by Welby Pugin, whose graphic *Contrasts* and *True Principles* did so much service later on. His energy was attributed to what "Classicists" called his "Whimmery," while his critics applied to him the sobriquet of "Smell-fungus," and so "the battle of the styles" began.

Samuel Prout and Others.

Anterior to that event there lived, quite apart from this battlefield, a delicate and physically fragile individual of retiring temperament, devoid of technical training, who single-handed wrought a revelation by discovering and popularising the charms of the picturesque in such common things as old cottages, and so opened up the possibilities of simply befitting countryside domestic architecture by which English architects made a world-wide reputation long years after Samuel Prout, the man I mean, had been forgotten and reckoned as a bygone. What man of his century dreamed of the exquisite beauty existing in the unsophisticated, tumbledown, neglected smaller Tudor and Stuart built dwellings of the husbandman before Prout made his brown-ink and reed-pen "dotted and blotted sketches?" Piranesi, no doubt, and Rembrandt, too, with such studies as his "Mill," had extended influences, like Cotman and others, towards a truer appreciation of the higher forms of architectural picturesqueness, and Piranesi's Baroque compositions told in an imaginative direction. *The Beauties of England*, edited by Britton and illustrated by Prout, filled a mission in the way I have indicated, at a time when our forefathers displayed an intense ignorance of architecture. Wood, of Bath, and Le Roy, of Paris, exemplified the spirit of refinement in design which found expression in France by the buildings designed by Gabriel, also in London and Edinburgh by Robert Adam, the most tasteful architect of his day, but his manner, for varied reasons, failed to find many imitators. The Adelphi Adams were extensively engaged at the time by the nobility, and by speculating, too, on their own account. Thus they enjoyed opportunities denied to Stuart and Revett, while Joseph Bonomi only had a restricted practice in which his skill was always manifest. Thomas Leverton did more, and was associated with the lay-out of London squares. Sir John Soane, the master of commonplace Greek, and Professor at the Academy, designed a scheme for the House of Lords, was much in favour, erected the Bank of England, and left a most excellent museum. John Gandon, pupil to Sir Wm. Chambers, displayed a much higher capacity when he won the competition and built the Custom House and Four Courts at Dublin. The expiring embers of the XVIIIth century had not been extinguished without a sudden flash of the Baroque, the Rococo keeping concert with the vagaries of the Ornamentalists, who fancied architecture consisted of so much applied enrichment more or less. They published pattern books, and seeking inspiration from Peking, also introduced red lacquer work for furniture and decorations. For portable pieces some of this work is very charming, and certainly the Chinese wall-papers imported at this time were most beautiful, brilliant, and durable. The Chinese room at Blickling Hall is an example in point.

The culminating extravagancies of George IV. were encouraged by John Nash when building the Regent's plaster fabricated Palace known as the Royal Pavilion, Brighton. This vogue for extraordinary diversions was thus exploited, but it was not all vulgar, and many of the appointments in glass, both in form and colour, were most clever; also the grotesque gilded carvings in this seaside palace were in their way excellent.

It strikes one, in reading about the blatant etiquette and expensive social comedy of Court life in Europe then, how incongruous the common conveniences of their everyday doings were, and their total disregard of the most elementary requirements of sanitation. The recognition of light and air was equally unthought of in the frosty upholstered, unventilated, pretentious dwellings of society, with their *bric-à-brac* better suited to the inventory of a stage wardrobe, though they exhibit the taste of their day. No doubt, some of the more stately dwellings, such as the Bishop of London's mansion in St. James's-square, are marked by architectural refinement of plan; and S. P. Cockerell, its architect, was a most cultured man. A few West-end residences of the same decade show the same distinction, but there was a prosaic order and colourless proportion about these decorous façades. James Wyatt, who acquired a big fortune, flattered by Walpole for his Gothic work, following up the Græco-Italian style, designed the "Pantheon" in Oxford-street; and Wyatville, R.A., invested, midst Edwardian surroundings, the incongruities of the Empire style at Windsor. His diploma drawing at Burlington House, showing a bird's-eye outlined view in Bistre of a mansion for the Earl of Yarborough, dated 1826, is no mean performance. W. Wilkins, R.A., built the National Gallery in 1832, and the British Museum, by Sir Robert Smirke, was commenced in 1823. John Dobson, of Newcastle-on-Tyne, erected the famous station there and laid out the town for Thomas Grainger. Dobson, by the way, was the first architect allowed to exhibit a coloured drawing at the Royal Academy. Up to 1815 architects had to be content with black-and-white drawings. Whatever niche may be accorded to Sir John Soane in Architectural History, he will not be best remembered by the box-like galleried tabernacles which he put up. St. Peter's, Walworth, filled him with such pride that he reproduced it later at Holy Trinity, Marylebone. The church was one of his best, and Walworth in 1824, when it was built, ranked as a fashionable suburb for the residences of merchants. St. Pancras parish church, by the Inwoods in 1822, famous for its Greek style of course, leaves Soane miles behind; but then St. Pancras church cost 100,000*l*., and Marylebone church cost nearly as much. University College, Gower-street, by W. Wilkins, dates from 1827.

Two years later the Travellers' Club displayed a remarkable departure by Sir Charles Barry, who had then returned from Italy fully impressed with the Farnese Palace, and Wolfe, a pupil of Gwilt, had systematised his method of study, inducing him to forego his fancy for Egyptian hieroglyphics covering mural surfaces with enrichments. Thus inspired from Italy, Barry also designed the Reform Club in 1837, and Bridgwater House in 1847. His early taste for redundant ornament reasserted itself in Barry's Gothic work. Liverpool was ennobled by the building of St. George's Hall, H. L. Elmes, a pupil of his father, being its architect, who died early. By his last wish Professor Cockerell finished the building. Cockerell, foremost as a brilliant "scholar architect" and exponent of the higher school of theoretical classic, erected the Taylorian Building at Oxford. George Basevi carried out the structural shell of the noble Fitzwilliam Museum at Cambridge, and laid out Belgrave-square. Hyde Park screen witnesses to the refinement of Decimus Burton, the architect of the Athenæum and United Service Clubs, Pall Mall. Sir William Tite commenced the Royal Exchange in 1844, which, it is said, owned a natural parent not recorded in the register. The west side of Somerset House was added a little earlier by Sir James Pennethorne. A considerable influence on façade treatment about this time was due to stucco, one of the most useful and ancient of materials; but cements are modern, and to what base uses have they not been put? It may be useful to give a date or two. Coade's patent stone dressings were used in 1771 by Leverton in Bedford-square. Robert Adam employed Liardet's cement for external ornamental work both in Fitzroy-square and the Adelphi. Parker patented Roman cement in 1796. Portland cement, invented by a bricklayer named Aspdin, was patented in 1824, and Keen's cement was patented in 1838. Nash is accorded the credit of having introduced the "stucco style" by his quadrant and building of Regent-street. Patent selenitic cement was invented by General Scott, 1870. There is also another practical matter which cannot well be omitted, and it may be mentioned here. However, at the moment I should like to point a moral as to *esprit de corps* by saying that Wyatville, a much-maligned man, merits our respect as an examplar, because when the tipsy Regent wanted to get rid of Nash as architect of Buckingham Palace by electing Wyatville in his place, the good man declined to supplant a brother architect even at a Royal "command." I have known architects who might still learn a lesson from the disparaged Wyatville.

The Gothic revival was a tangential departure, and not an evolution by which in imperceptible degrees one style grew out of another. The result was chaos, and it would be difficult to decide as to when and to whom emancipation was due. A certain class of progressive antiquarians even now assure us that darkness prevailed till the advent of the pre-Raphaelites. Others date our Renaissance from the birth of the Arts and Crafts Society, fortified by the archæological cave-dwellers of the anti-restorationist crusade. We might perhaps be more convincing to them if we spoke slightingly of "the so-called Gothic revival" which was brought about after Prout had touched the heart of the public and unsealed its eyes to the picturesque. Pugin, with his doubtful analogies, and Ruskin, with his false taste for Naturalesque sculpture in ornament, had at least instructed and roused public opinion. The educated classes were thus prepared to co-operate, and architects, to make themselves fit, measured details and studied mouldings, but somehow missed the inspirations of the mediæval soul, as they borrowed fragments which became lifeless and uninteresting.

Barry and Pugin.

When the Government advertised the Houses of Parliament competition in 1835 the conditions prescribed "Elizabethan or Gothic." Four premiums of 500*l*. each were offered, and ninety-seven competitors sent in plans. Charles Barry won the prize, and was forty years of age when King William IV. confirmed the award of the Commissioners and elected him architect early in 1836. The Classicists fought against the verdict, and Welby Pugin, who had not competed in his own name, plunged into the subsequent fray with all the ardour of his enthusiastic temper. Barry and Pugin had previously co-operated when King Edward's School at Birmingham was built in 1833, and it was in that building that Barry discovered Thomas, the stone-carver who carried out so much of the work at Westminster. The controversy as to how far Welby Pugin was the author of the Houses of Parliament ended, as it had begun, in the conclusion that the general conception and magnificent lay-out of the plan belonged to Barry, and that Pugin detailed it. The foundation-stone was laid in 1839, and it is evident that Barry's love for Egyptian surface enrichment favoured Pugin's encrustation, so to speak, of the façades with endless florid detail. The conception of the scheme is eminently classic in its distribution, which shows Barry's personal predilections for balanced symmetry. The Birmingham school just named precisely illustrated the same combination of authorship.

Everyone knows what an excellent draughtsman Welby Pugin was, but those who are not familiar with the drawing in Ferrey's "Life" of this great architect may not remember that at so early an age as thirteen Pugin made a first-rate sketch of Christ Church Priory, realising the architecture of that remarkable building fully expressed. A bird's-eye of his church and convent at Ramsgate is included in the Phené Spiers's collection of historic drawings hung in the Victoria and Albert Museum.

While Pugin was busy in 1837 with the drawings of the new Palace at Westminster,

"in the composition of the river front," the centre wings and tower, he was engaged in erecting St. Mary's College, Oscott, and Scarisbrick Hall. Simultaneous entries in his diary show this beyond question. His first church was St. Mary's, at Derby. Talbot Bury and Benjamin Ferrey I knew, and having worked with Pugin for Barry, they all three gave Sir Charles the full credit for his design as a whole. The work carried out all over the United Kingdom by Welby Pugin stands as his best evidence of his claims, as at St. Gregory's Priory, Downside, the cathedral-like church near Hereford, and St. Chad's, Birmingham. Three churches at Liverpool, more at Manchester, Leicester, Cambridge, and St. Giles's, Cheadle, which for its size was the most costly of them all. Killarney and Newcastle show others. Lord Dunraven's seat at Kildare in Ireland, and Bilton Grange, Warwick, his domestic work. The Pugin Travelling Studentship, founded by subscription at the R.I.B.A., was first held in 1865 by Mr. Tavenor Perry, who built part of the Hotel Cecil, facing the Embankment.

Sir George Gilbert Scott.

Sir George Gilbert Scott, at the outset of his career, erected many workhouses and such-like buildings, and other Gothic celebrities, like S. W. Dawkes, who had erected Colney Hatch, and Benjamin Ferrey, who built Dorset County Hospital in 1839. Scott was articled to Edmeston in 1827, and in 1834 helped Kempthorne, an expert in workhouse projects, after serving a time with the builders, Peto and Grissell. Scott's connexion with Moffatt began in 1835, after which the firm went in seriously for Poor Law enterprises, and carried competitions before them with businesslike foresight in such a way as to obscure some other considerations. Influenced by Storer's "Cathedrals," which came out in 1814-19, Scott turned his attention subsequently to mediæval work, and the Cambridge Camden Society woke up matters in favour of ecclesiology, which was inspired largely by Pugin. Curious to relate, Gilbert Scott obtained his first church, St. Mary's, Stafford, through his connexion with the Poor Law Commissioners. He had realised the shortcomings of the Gothic church at Windsor, built in 1822 by C. Hollis. This building was remodelled by Teulon in 1869 internally.

Scott characteristically went in to win, and so adopted a popular style, as at St. Mary's, Wakefield, and he won much favour by his capable church of St. Giles at Camberwell (1841), also by securing by competition Hamburg Cathedral in 1844, on which design he had the help of Coe and Street. The Camden Society, being more liturgical, advocated Butterfield and R. Carpenter. Churchmen looked askance at Scott's partnership methods with Moffatt, which connexion was concluded in 1845. Scott obtained the surveyorship of Westminster Abbey when Blore retired in 1849. The Chapter House was restored by Scott, who built the new north portals. The upper part of this transept façade was the beautiful design of J. L. Pearson.

In 1853, Scott built the much-talked-of church at Doncaster, when E. B. Denison, afterwards known as Sir Edmund Beckett, and subsequently Lord Grimthorpe, acted as candid friend, giving Scott much to interfere with his devotional exercises. The west window, erected years afterwards by Grimthorpe at St. Alban's Abbey, with an arched sill added, was based on Scott's Doncaster design, which Denison twitted Scott for borrowing from elsewhere.

The competition for the Foreign and Colonial Offices in Whitehall was taken part in by 218 other architects, and I have already mentioned how Scott was chosen, and how he was served, but I did not say that Sir Digby Wyatt's work was confined to the interior of the India Office, the contrivance of some rooms badly fitting the exterior, but much of his ornament is extremely clever. It is impossible in a paper of this kind to do justice to such a personality as Sir Gilbert Scott. His work was enormous, and his capabilities such as would have made him distinguished in any age.

The Architectural Museum.

Sir Gilbert Scott founded the Architectural Museum in 1851. It originated in the sale of Cottingham's Collection and was based on Bruce Allen's idea of a school of applied art for workmen. Street and Butterfield did not encourage the project, but Alfred Waterhouse and Mr. Norman Shaw always supported it. Scott engaged Gerente, of Paris, to get together a vast number of fine casts from France. Sir Bartle Frere gave a splendid collection of marble reliefs from India, Ruskin added more carved treasures, also his Venetian collection. Joseph Clarke, Ewan Christian, and J. P. Seddon proved its best friends. A wharf was rented in Cannon-row, and here the Earl de Grey presided in the cockloft while Ruskin lectured and Bereford Hope found the ways and means. The casts were removed to South Kensington, then in its embryo stage, under Henry Cole; but the museum casts were too much absorbed by the larger assemblage, and so later they were brought back to Westminster, where in Tufton-street the Museum quarters had been erected by Ewan Christian and Joseph Clarke as hon. architects. To provide a home for the Architectural Association day and evening schools in 1902, I proposed, and, with the concurrence of the Museum Council and subscribers, brought about the free gift of our buildings and their contents, subject only to one condition, viz. :—that the Architectural Museum should be maintained for the free use of the public as heretofore for ever."

Having referred to the professional societies of architects, to the 1851 Exhibition, and the work of Paxton, and Sir Henry Cole, the lecturer dealt with William Butterfield, J. L. Pearson, James Brooks, G. F. Bodley, and others.

William Burges.

As to William Burges, the lecturer said :—

"William Burges I also knew personally. His wonderful house at Melbury-road is worthy, like the Musée Plantin, Antwerp, of belonging to the nation. It is incomparably more interesting than Lord Leighton's house, of which so much has been said, though no doubt the Arab Hall, with its old Moorish tiles, is very beautiful and interesting. William Burges joined H. Clutton in a competition for Lille Cathedral in 1856, which they won. Street took the second prize, and he said Burges was so familiar with French prejudice that he had taken the precaution to use French paper, and, as Street thought, thereby obtained undue advantage. The drawings anyhow were so quaintly executed that Viollet-le-Duc at first believed, when he visited the competition, that Burges's drawings were some old ones of the XIIIth century, till he discovered "Whatman's" water-mark in the paper. Either Street or Viollet-le-Duc was wrong. The church at Lille is a wretched building, boiled down from Burges's and Street's designs, and erected by a local man named Leroy, Burges and Clutton having been got rid of. The designs of William Burges were always thorough, including the most minute detail. His design for the Law Courts was architecturally by far the best. The scheme which he made for decorating St. Paul's Cathedral by a veneer of marble was shown at the Royal Academy in 1873. Burges's design for Edinburgh Cathedral would grace any period of art. E. W. Godwin, F.S.A., like his personal friend, William Burges, imported French Gothic mannerisms, and exercised a great influence on his fellows, though considering his genius, Godwin's career individually was largely a failure due to his own personal shortcomings. Congleton and Northampton Town Halls, Dromore Castle and Glenbigh Towers, some work at Canons Ashby for the Marquis of Northampton are his designs. He won the first competition for the Town Hall at Leicester and built Whistler's house at Chelsea, and others at Bedford Park. Godwin created a style of his own, and took up Japanese art with ability. As a writer of literary accomplishment and as an authority on costume and dramatic staging he was unsurpassed.

George Edmund Street.

George Edmund Street, R.A., the builder of the Law Courts, was in every sense a great architect. Bristol and Christ Church Cathedrals were partly rebuilt by him, and he told me that when the Dublin work was in hand a detail for the entrance arch was asked for. He drew it out on the spot, full size. As the structure proceeded a fragment of the old arch was subsequently found which proved to be identical with the profile he had supplied, so scholarly was Street's knowledge. His design for Edinburgh Cathedral was an excellent performance, a remark which applies to his fine churches at Kennington, Paddington, Eastbourne, Clifton, Bournemouth, and Oxford, also St. James' the Less, Westminster, and the convent at East Grinstead. Like Barry and Scott, Street was buried in Westminster Abbey. Bodley designed the brass over the grave."

Domestic Work.

The lecturer then referred to some recent and present church architects, and to civic buildings of recent times and their architects. Proceeding, he said :—

"English and Scotch Domestic work has exceeded in merit all foreign competition, and it bids fair to reach a more general application as men learn to omit senseless detail and elaboration, depending instead more on outline and good proportion; but the Gothic spirit must be retained to keep it virile and adapted to modern requirements and domestic comfort.

The introduction of ferro-concrete construction and the facility of transporting materials as well as the introduction of specialists' building appliances have not only quite revolutionised the contracting trade, but settled for ever the influence of local materials on work in different parts of the land. Curiously enough it is the metropolitan architect who now is most keenly anxious to retain indigenous modes and to revive traditional local styles should he be employed where any once obtained. The native architect, as a rule, perhaps to impress what he does with what may pass as being up to date in style, emulates what he assumes to be the last phase of fashion in town as illustrated in the professional journals. This is a matter of keen regret. A hundred years ago architects were often builders as well. The Brothers Adam, like many less prominent architects, undertook to provide completed buildings. Now, architects having increased in numbers beyond all hope of lucrative employment, too much work is being expensively handled wholesale by municipal trading schemes on the one hand and by emporium furnishing firms or stores undertaking architectural work on the other. Registration is being pressed forward as a remedy. It may help the practitioner even if it does not improve architecture as an art, for that depends upon the artist, whose skill is a matter of birthright and not legal enactment.

Restoration.

No retrospect of the past century can reasonably be complete without some reference to the vexed question of restoration, which with all its disastrous results, was carried out in the earlier Victorian period with far too big a letter R; it destroyed much that was historically valuable and artistically beautiful by well-meaning enthusiasts who scraped and spoiled many a noble building at enormous expense without recognising the value of architecture and her handmaidens in craftsmanship. We are all agreed about that, and now, let us hope, no capable architect would do anything of the sort we deplore. The pity is that the Protectionists so seldom do anything to preserve a building from thoughtless neglect, and in their zeal to prevent an architect from touching an old church to make it more fit for contemporary worship, they forget that rack and ruin is going on elsewhere unheeded, and no effort made to save and upkeep all kinds of even more valuable remains, which, if left alone, will soon remain no longer."

THE ROAD BOARD.

During the months of January, February, and March, 1912, the Road Board, with the approval of the Treasury, have made advances amounting to 88,992*l.* from the Road Improvement Fund to county councils and other highway authorities. The Board have also intimated that they are prepared to contribute, subject to the approval of the Treasury, 875,000*l.* towards the construction of a new western approach road to London.

COTTAGES AT ST. HELENS, HASTINGS.

THIS building occupies an elevated and exposed position overlooking Hastings and the sea. The southern aspect and view has largely governed its general disposition. The arrangements are dictated by rather unusual requirements. Although planned as two cottages, they communicate on the first floor and are technically one building; but the dividing wall has been taken up through the roof in deference to the wish of the local authorities. The materials are a local clamp brick of rough texture, varying in colour, but producing a general effect of a low-toned gray-red, with red-brick arches and green slates. The cost, not including garden retaining wall and slips, was 568*l*. The builders are Messrs. J. Lester & Sons, of Hastings, and the architect is Mr. A. R. Jemmett.

Cottages at St. Helens, Hastings.
Mr. A. R. Jemmett, F.R.I.B.A., Architect.

THE SOCIETY OF ARCHITECTS.

AT a meeting of the Society of Architects, held on Thursday, April 11, a paper, entitled "Notes on Some Principles of Professional Practice and Suggestions for a Code of Ethics," was read by Mr. C. McArthur Butler, F.C.I.S., Secretary of the Society. In the course of his remarks he said:—

"I propose in the first instance to make a brief reference to the practice and custom prevailing in other professions, then to consider what is being done by architectural bodies, subsequently making a reference to some of the main principles which it appears to me should govern architectural practice, finishing with some suggestions for procedure and for the basis of a schedule of practice and a code of ethics.

Custom in Other Professions.

I need only refer in passing to the professional etiquette prevailing in such professions as those of law and medicine, the code applying to the latter being probably one of the most stringent, so much so that from a perusal of letters in the public Press one is led to think that the line may sometimes be drawn to an extent which might appear to amount to an injustice in certain cases.

Among the numerous institutions representing the engineering, surveying, and allied professions in the United Kingdom the only one, so far as I am aware, which has a code of ethics as well as by-laws is the Institution of Civil Engineers, whose procedure in this respect is being closely followed by the Institution of Electrical Engineers and by the newly-formed Association of Consulting Engineers.

I understand that the American engineering institutes adopt similar methods.

The opinion has been expressed that in some cases, such, for instance, where an institution is called upon to act in a judicial capacity in dealing with complaints regarding professional etiquette or misconduct, a code might limit and hamper that institution in the performance of these duties, but the general feeling appears to be in favour of a code.

The Attitude of Architectural Societies.

We will now consider the custom is regard to architectural societies, noting first colonial and continental practice.

The American Institute of Architects offers to its members advice relating to the principles of professional practice and puts forward a canon of ethics.

The architectural institutions of Australia are co-operating in compiling a code, while the one issued by the Central Society of French Architects has, I understand, been adopted by other French architectural societies.

In South Africa similar measures are being adopted by the various associations of architects, and in Canada the Royal Architectural Institute of Canada and other associations of architects, which are rapidly springing up in that progressive Dominion, have each their code of ethics, administered in most instances, I believe, under an Act of Parliament.

Architecture is one of the few, if not the only one of the great professions, the practice of which at home is not regulated by Act of Parliament, and probably it is the only one which is split up into so many institutions and societies, all having very much the same general aim. There are, for instance in London the Royal Institute of British Architects, the Society of Architects, and the Architectural Association, and in the provinces there are seventeen architectural societies allied to the Royal Institute, besides several at present unattached and others in course of formation. All these societies have by-laws which enable them to deal with specific charges against their members, and in most cases a member on joining has to sign a declaration against illicit commissions as well as an undertaking to keep the regulations.

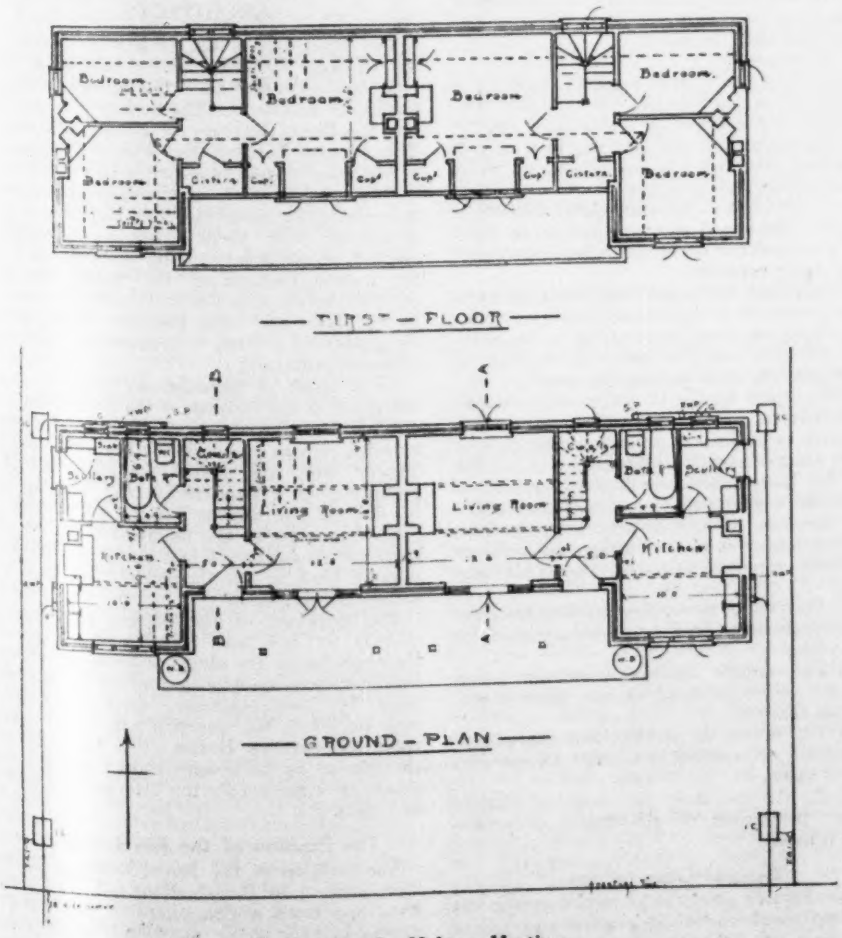
The allied societies, as one would expect, are practically in every case governed by the general practice of the R.I.B.A. as contained in the resolutions published in their *Kalendar*. These relate to the signing of buildings and display of names by architects, the making known to the client of the architect's interest in materials or devices used on buildings, the question of supplanting other architects, and the payment for the quantities by the client (a matter dealt with in the schedule of charges), and also include the recent regulation relating to participation in architectural competitions.

The Effect on the Profession.

Thus we find the architectural profession as a whole at present without any generally and publicly recognised schedule of the principles to be observed in practice, no publicly recognised competition regulations, no publicly recognised scale of charges, and no publicly recognised penal code, the regulations which are at present in force, excepting the one relating to competitions, being more in the nature of expressions of opinion and relying upon custom for their enforcement—so far at any rate as they relate to unattached architects.

Each member of the profession may set his own standard and is not amenable to any discipline beyond that implied in his voluntary obligation in respect of the rules of any professional body to which he may belong, which are usually confined, as previously stated, to a declaration against illicit commissions (now probably rendered unnecessary by Act of Parliament) and an undertaking to keep the rules, the most important of which, in the opinion of the member concerned, is probably that relating to the payment of dues.

In the rare cases, if any, where action has



Cottages at St. Helens, Hastings.
Mr. A. R. Jemmett, F.R.I.B.A., Architect.

been taken by an institution not acting under statutory powers against a member for unprofessional conduct removal from the roll of such institution on this ground, so far as the public or even the profession beyond those immediately connected with the case is concerned, has no more effect than if such removal was due to the relatively milder breach of the rules relating to the payment of the fees, seeing that the reason of the removal of the offender from the register is not made public, nor is he thereby debarred from continuing to practice.

The unattached architect, whose name is legion, has not even this deterrent, and is under no control within the limits of professional matters.

Suggestions for a Remedy.

This state of things can be remedied to some extent, and at present, so far as architectural societies are concerned, by the universal adoption by them of a schedule of principles and a penal code; but the unattached architect still remains uncontrolled, and, in my opinion, the only effective way of dealing with the whole matter is by statutory powers such as would be provided under a Registration Act.

Is it desirable under these circumstances that a schedule of practice and a code of ethics should be instituted for the architectural profession, and, if so, on what basis should the latter be drafted, bearing in mind the fact that architectural societies reserve to themselves power to regulate, if only to some limited extent and on certain points, the conduct of their members, and that it would appear that by laying down wider regulations they might possibly be hampered when dealing in a judicial capacity with these matters?

In my opinion, the desirability in principle for a schedule of principles of practice and a code of ethics is admitted, and that what is good for the societies concerned may be held to be good for the profession generally.

Here, however, we are faced at once with the difficulty already referred to, of dealing with that considerable body of architects outside any architectural society, who possibly could not be expected, and certainly could not be obliged to adhere to any general schedule or code, nor against whom could such a code be enforced in the absence of any controlling body representing the whole of the profession and vested with statutory powers.

A Board of Professional Control.

In the absence of, or in the anticipation of, such a controlling body as would be constituted under a Registration Act, I suggest the immediate formation by agreement between the architectural societies, of a board of professional control, representing every architectural society in the United Kingdom in such proportion as may be arranged.

By this means pressure could be brought to bear both on public bodies and members of the profession much more efficiently than under the present system, while it would be very difficult and highly undesirable for even the unattached architect to ignore the fiat of a body so constituted; indeed, in my opinion, one effect of the formation of such a body would be to encourage those outside to come into one or other of the Societies.

In other words, there would be unity of action and cohesion where there now exists weakness and impotency, and as, in my opinion, everything points to unity being presently secured under a Registration Act, I think we may well in the meantime lay down certain principles of practice and be prepared with a code of ethics acceptable to the various societies, with a view to general adoption now and their incorporation in an Act of Parliament in due time.

Essential Qualifications for the Practice of Architecture.

From a perusal and comparison of the various codes in use amongst architectural societies at home and abroad I have found them to be very much alike; and in regard to setting out the principles of professional practice I consider that the circular issued by the American Institute of Architects, which offers advice relating to professional practice, can hardly be improved upon in seeking to maintain a high standard of practice and conduct on the part of members of the profession as a safeguard of the important financial, technical, and æsthetic interests entrusted to them.

The profession of architecture, as the American Institute truly says, calls for men of the highest integrity, business capacity, and artistic ability. The architect is entrusted with financial undertakings in which his honesty of purpose must be above suspicion; he acts as professional adviser to his client, and his advice must be absolutely disinterested; he is charged with the exercise of judicial functions as between client and contractor, and must act with entire impartiality; he has moral responsibilities to his professional associates and subordinates; finally, he is engaged in a profession which carries with it a grave responsibility to the public. These duties and responsibilities cannot be properly discharged unless his motive, conduct, and ability are such as to command respect and confidence.

I am of the opinion that if the architectural societies will take a wider view of their responsibilities to the profession, while not neglecting their own immediate concerns as societies, and work together, by means such as I have indicated, on all matters of general interest to the profession or the public, they can even under present conditions do an enormous amount of good in the direction of maintaining a high professional standard and consequently in raising and maintaining the whole tone and standing of the profession and of the art in the estimation of the public.

No set of rules can be framed to include all the duties of the architect in his various relations to his clients, to contractors, to his professional brethren, and to the public, but the following may be enumerated as some of the main principles which should govern the conduct of members of the profession, and may serve as a guide in circumstances other than those enumerated.

Suggestions for a Code of Ethics, the Violation of any Items of which should Constitute Unprofessional Conduct.

The following items are suggested as a guide, but their enumeration should not be construed as a denial of the existence of others equally important, and just as the several items indicate offences of varying degress of gravity so the penalty for infringement would involve warning, reprimand, expulsion, or such other punishment as the board of professional control may at the time decide.

It is unprofessional for an architect—

(1) To engage directly or indirectly in any of the building trades, except as owner.

(2) To guarantee an estimate or contract by bond or otherwise.

(3) To accept any commission or substantial service from a contractor or from any interested party other than the client.

(4) To advertise.

(5) To take part in any competition the terms of which are not in harmony with the principles approved by the board of professional control.

(6) To attempt in any way except as a duly authorised competitor to secure work for which a competition is in progress.

(7) To attempt to influence either directly or indirectly the award of a competition in which he is a competitor or in which he is interested in any other capacity.

(8) To accept the commission to do the work, either personally or by partnership, for which a competition has been instituted if he has acted in an advisory capacity either in drawing up the programme or in making the award.

(9) To injure falsely or maliciously, directly or indirectly, the professional reputation, prospects, or business of a fellow-architect.

(10) To undertake a commission while the claim for compensation or damage, or both, of an architect previously employed and whose claim has been referred to arbitration, or issue has been joined at law, or unless the architect previously employed neglects to press his claim legally.

(11) To attempt to supplant a fellow architect after definite steps have been taken toward his employment.

(12) To compete knowingly with a fellow architect for employment on the basis of professional charges.

(13) To criticise in public print the professional work or conduct of another except over his own name.

(14) To deviate from the scale of charges without permission of the board of professional control.

General Observations.

There are five points in particular arising out of the proposed schedule of practice and code of ethics to which I would call attention—(*a*) The ownership of drawings; (*b*) scale of charges; (*c*) advertising; (*d*) competitions; (*e*) architectural societies; (*f*) public authorities.

In regard to (*a*), the ownership of drawings. The fact that an architect can be called upon to deliver up to a client all drawings and documents on completion of the work and payment of fees, in the absence of any express agreement to the contrary, renders it desirable in my opinion to consider the question of endeavouring to get the decision in "Gibbon *v.* Pease" reversed, and in the meantime, in works of any importance, for the architect to arrange procedure with the client previoualy.

In regard to (*b*), the scale of charges. The fact that the only authority and recognition which this scale has is based on custom renders it desirable, in my opinion, from this point of view to hasten an Act of Parliament under which such a scale would be legalised. On the question of the scale generally, I am of opinion that in the architectural profession payment by commission on the cost of the building is wrong in principle if not immoral, as it is exceedingly difficult to get away from the fact that the architect benefits materially in proportion to the amount spent by the client, though he may and does in the interest of his client make every endeavour to keep within the limit laid down.

The architect should not, in my opinion, be placed in a position where it may be inferred that his personal interests are likely to clash with those of his client.

Again, a minimum scale is not unlikely to be considered or to become a maximum one also.

I have no practical proposal to make at present for the redrafting of the scale as it now exists; but it has been suggested to me, why have a scale at all, why should not architects, like other artists, adjust their charges in accordance with what they can command for their services?

In regard to (*c*), advertising. It all depends on the interpretation and definition of the term, which, I take it, is intended to mean when applied to architects that they should not employ commercial methods of making themselves and their work known to the public—that is to say, by direct advertising."

[The other points arising out of the proposed schedule—*i.e.* (*d*), (*e*), and (*f*)—were also briefly dealt with by Mr. Butler.]

THE STATUTORY REGISTRATION OF ARCHITECTS.

The President of the Society of Architects, Mr. George E. Bond, J.P., has issued the following statement on "The Statutory Registration of Architects—The Society of Architects and the Royal Institute of British Architects: The Present Position and Future Programme of the Society and the Policy of its Council":—

"It is apparent from the communications I am constantly receiving from members of the profession that there exists a considerable amount of misunderstanding both in regard to the present position of the Society and the probable future action of its Council in reference to the above and other matters. Under these circumstances I think it desirable to make the following statement:—

As a result of negotiations between representatives of the Councils of the Royal Institute and of the Society, extending over fifteen months, certain proposals for the fusion of the Society with the Royal Institute and the promotion of a Registration Bill were agreed to, but on the scheme being submitted to a general meeting of the members of the Royal Institute on January 8 last the proposals were referred back to the Council of that body for further consideration.

The members of the Society have consequently not yet been called upon to express their opinion on the above proposals by voting, but they have severely and adversely criticised them by correspondence, more particularly with regard to the question and terms of the fusion of the two bodies. The opponents of the scheme on both sides claim that too much was to be conceded for the little to be obtained in return.

The Position of the Royal Institute.

The position of the Royal Institute is that it is pledged to Registration, and its Council have appointed a Committee to consider the matter in view of the situation created by the reference back to them of the proposals above mentioned.

The Position of the Society.

The position of the Society is exactly what it was before—that is to say, it is pledged, as always, to Registration, but not to any course of action therein with the Royal Institute, and the Council of the Society will not initiate further steps in regard to the fusion of the Society with the Royal Institute, though they will be prepared to favourably consider and discuss any reasonable proposition in regard to the subject which may be submitted to them by the Council of the Royal Institute.

Registration.

In regard to Registration, a new situation has arisen. The Society of Architects has been the pioneer in this movement for considerably over a quarter of a century, and when the Council of the Royal Institute adopted a Registration policy this enabled negotiations to be opened with them with a view to the promotion of a joint Bill.

In the early stages of the discussion it became apparent that with regard to one of the main points of the proposed Bill my colleagues and I, as representing an independent architectural body, could not possibly agree with the view put forward by the representatives of the Royal Institute, and, as they were equally determined not to accept ours, the question of amalgamation was suggested to us as a way out of the difficulty: for both parties recognised, as all thoughtful persons must, that in the present congested state of public business in Parliament a contentious Bill would not have the least chance of reaching a Second Reading; and that neither party could hope under these conditions to pass a Bill through Parliament unless there was unity of action.

As, however, the Council of the Society of Architects have laid down in the proposals for the fusion of the two bodies the minimum which they can recommend their members to accept, and as these proposals have been severely criticised by the members concerned, it would seem unlikely that further progress can be made in this direction, but there remains the alternative of continuing the negotiations with regard to a joint Registration Bill; and we are prepared and indeed desirous of continuing them, hoping thereby to establish that unity of action which is essential in that case to success.

The opinion has been very freely expressed by many influential members of both bodies that in order to secure the passage of a Bill which will protect the interests of all practising members of the profession, and not merely those belonging to one institution, it is an essential condition that the Society of Architects shall continue its existence as a powerful independent body.

I may here state that at the time the negotiations with the Royal Institute were first opened the Council of the Society had formulated a certain course of action in regard to the introduction of the Society's Registration Bill into Parliament, and the machinery which then existed is still available, and should it eventually be found impossible to make progress in any other way that machinery will be set in motion. In other words, we are prepared, if necessary, to resume at any moment that active independent propaganda hitherto so successfully pursued, but which we temporarily suspended in order to consider another means of attaining the same end.

Having made clear the present position as between the two bodies and the policy of the Council of the Society in regard to the Registration question, I would now call attention to the fact that the work and activities of the Society in other directions are being carried on exactly as before, without reference to any matters pending between the Councils of the Society and of the Royal Institute.

Various schemes of the greatest importance to the development of the Society and its work, which have been held in abeyance during the negotiations referred to, have been resumed and are being actively prosecuted. Among these may be mentioned the institution of a code of ethics, the development of the students' section, and the introduction of graded examinations, involving the reorganisation of the qualifying examination for membership, in connexion with which latter the Council are seriously considering whether or not, at an early date, admission to the Society in any class shall be restricted to those who have qualified by examination.

Until further restrictions are imposed it is open to any qualified architect who can comply with the regulations to be nominated as a candidate for membership of the Society, and, on satisfying the Council of his eligibility and qualifications by production of evidence of the standard required in lieu of other examination, to be proposed for election.

Architects who are in sympathy with the proposals for Registration will appreciate the fact that the Society of Architects is the only architectural body which has made Registration one of its chief aims, and which is pledged to secure that end by one means or another; and it is on this account particularly that the Society has a claim to the support of all qualified architects, on whose behalf it has consistently and persistently advocated and upheld the principle of Registration for so many years, in the face very frequently of bitter opposition and misrepresentation.

The Society is a powerful and strongly established institution, with a total membership of nearly 1,200. It has its own premises and every facility and means for extending the scope of its operations and for the ultimate attainment of its principal object. It is incumbent on those who are with us in principle to be also with us in person, and I venture to express the hope that every eligible architect who possesses the necessary qualifications and is in sympathy with the aims of the Society will consider it his duty, apart from any personal advantages to be derived, to give to the Society that material and practical support which can only be evinced by joining its ranks and thus still further strengthening and consolidating its position and influence."

ARCHITECTURAL SOCIETIES.

The Royal Institute of the Architects of Ireland.

An ordinary Council meeting of this Institute was held on Monday last week at the Institute Rooms, No. 31, South Frederick-street, Dublin.

The Vice-President, Mr. R. Caulfeild Orpen, B.A., was in the chair. There were also present:—Messrs. C. H. Ashworth, P. L. Dickinson, L. O'Callaghan, J. H. Webb, G. C. Ashlin, W. Kaye-Parry, H. Allberry, A. G. C. Millar, G. P. Sheridan, and C. A. Owen, Hon. Secretary.

A considerable amount of correspondence was dealt with. The annual dinner was fixed for May 7, when his Excellency the Lord-Lieutenant of Ireland has promised to be present. The question of the best steps to be taken in order to have an architect assessor appointed to sit with the judge in building cases was referred to the Professional Practice Committee for report.

ENGINEERING SOCIETIES.

The Institution of Civil Engineers.

At a recent meeting of the Institution of Civil Engineers three papers were read on Glasgow Main Drainage Works, the following being abstracts:—

(1) "The Main Drainage of Glasgow," by Mr. A. B. McDonald and Mr. G. M. Taylor, MM.Inst.C.E. This paper commences with a retrospect of the many past endeavours to free the River Clyde from the pollution of the Glasgow sewage, going as far back as the year 1605. At this time the river was quite tideless and fordable in many places at Glasgow. Trade was insignificant, as seaborne traffic could reach the city only after transportage into small boats at Dumbarton. In 1662 the Town Council ordered a small quay to be built at the Broomielaw, and this was the commencement of the great transformation of the Clyde into one of busiest waterways in the United Kingdom.

In 1859, the late Mr. J. F. La Trobe Bateman, Past-President Inst.C.E., and the late Professor Anderson reported on the subject. Later reports were made by the late Sir Joseph Bazalgette, Past-President Inst.C.E., and the late Sir John Hawkshaw, Past-President Inst.C.E., and in 1878 Mr. Bateman again reported, but nothing was done, and the condition of the river became worse and worse.

Soon after this a Bill was deposited in Parliament for the construction of the Glasgow underground railway, which was projected in such a way as to dislocate the entire sewage system then in existence. The Corporation strongly opposed this measure, but eventually arrived at an agreement on obtaining from the promoters an undertaking that they would bear the expenses of reconstructing the sewers to the approval of the Council; and in conference with Sir Joseph Bazalgette a system was designed whereby the sewage of the north-eastern area was conveyed to Dalmarnock. The Corporation then engaged the late Mr. G. V. Alsing to design works for the purification of the sewage at Dalmarnock. The general arrangement of these works is at present as follows.

The sewage, amounting to an average daily flow of 18¼ million gallons, is passed through vertical screens, and thence into two catchpits. The solids are removed from these pits by mechanical means. The sewage then flows into the pump-well, whence it is lifted by means of five centrifugal pumps into a mixing-pit, where the chemicals are added. The mixture is passed into precipitation-tanks, where the solids are allowed to settle. The tank-effluent passes direct into the river. The sludge from the precipitation-tanks is pumped into three storage-tanks, where it settles until about 50 per cent. of the top liquid can be drawn off. High-pressure rams then raise the sludge to the presses. About 247,000 tons of wet sludge are dealt with per annum.

The Dalmarnock works were regarded by the Corporation in the light of an experiment, and the results proved so satisfactory that it was resolved in 1895 to proceed on similar lines with works for dealing with the remainder of the City. Works were constructed at Dalmuir to deal with the north-western part of the City, and at Shieldhall for the area lying south of the Clyde.

The process of purification at Dalmuir may be briefly summarised as follows:—The sewage, amounting to an average daily flow of thirty-six million gallons, passes through a screen chamber and thence into catchpits, where the heavier solids settle and are removed by means of a dredger. The chemicals are added to the catchpit, and the sewage then flows into one or other of eight precipitation-tanks, having a combined capacity of twelve million gallons. The sludge is pumped into an elevated tank, whence it flows by gravitation into the hold of the sludge-steamer. The steamer carries about 1,200 tons of sludge in closed tanks a distance of 40 miles from Dalmuir, and last year it dealt with over 300,000 tons of sludge.

The works designed for the treatment of the sewage of the southern district at Shieldhall deal with an average daily flow of twenty-three million gallons. They are to a large extent a repetition of those at Dalmuir. High and low level intercepting sewers have been constructed. The low-level sewage from the eastern part of this area is raised into the high-level sewers at the Kinning Park pumping-station, and the low-level sewage from the western half is raised to the works at Shieldhall.

Great difficulties were encountered in the construction of the works in the southern area. The sewers in many places were found to overlie coal workings of unrecorded date, necessitating a large amount of special construction in cast-iron segments. The erection of the Kinning Park pumping-station also proved a matter of great difficulty owing to the insecure nature of the substrata, which consisted mainly of silt, and at the purification works there was an abnormal amount of subsoil-water which rendered exceedingly difficult the construction of the deeper parts of the machinery buildings. These difficulties were overcome, and the whole of the works have been in successful operation since May, 1910.

The precipitation process adopted at all three works completely removes the suspended solids from the sewage, and effects a high degree of purification upon the liquid. In consequence, the condition of the Clyde has improved so much that in place of being a dead river it has returned to a live and satisfactory condition.

(2) "The Construction of the Glasgow Main-Drainage Works," by Mr. W. C. Easton, B.Sc., M.Inst.C.E. The Glasgow

Main-Drainage Works, as described in the previous paper, consist of three schemes. The two larger of these cost over two millions sterling, and the present paper deals with their construction, which covered the period from 1899 till 1910. Owing to the fact that, apart from sundry differences, the two schemes are similar, and that the construction of the second was not put in hand until an interval had elapsed after the completion of the first, there was naturally a great opportunity for developing the special ideas gained from the experience of the first in the construction of the second. The author consequently deals largely with a comparison between the methods employed.

Four leading developments in ideas obtained from the experience on the construction of the first were applied on the second, namely :—

(*a*) To standardise designs;
(*b*) To use tunnel in preference to open cutting, particularly if it involved the use of sheet-piling;
(*c*) To adopt longer drives and smaller sizes for tunnel;
(*d*) To take full advantage of the fact that the Glasgow Main Drainage staff was capable of executing the more difficult work without the aid of contractors.

The more interesting portions of the works described are :—

The difficulties and expense incurred through the presence of old mineral workings. The most expensive case was where the cost of a 7-ft. sewer amounted to nearly 300*l.* per lineal yard.

The construction of the rising main, which affected its design considerably. Incidentally this work further illustrates the development of ideas already referred to.

An experiment in tunnelling in concrete segments, lined with brickwork.

The Kinning Park pumping-station provided the most difficult construction work on the schemes. This station is founded rather below the middle of a 44-ft. bed of running silt, closely surrounded by buildings and streets carrying tramways. The design—apart from the mechanical equipment—was entirely controlled by construction, and the whole station was a work which, from the difficulties of the site, gave the Glasgow Committee a great deal of anxiety. The five stages employed in the construction of the sub-structures are described; great care was taken in detail, such as the keeping of very close piling diaries. In an Appendix the measurement of the main work is given, priced on its actual cost to the Corporation, and amounting to about 37,000*l.*

Appendixes to the paper give an abstract of unusually thorough analyses of cost, made by the author on the instructions of the Town Clerk for Parliamentary purposes. The results show considerable economy effected by the developments in ideas applicable to the special conditions obtained from the experience of the western works. This economy was effected on the prices for the more difficult work, particularly where iron tunnel and air-pressure were used.

The opinion is expressed that the main factor in this result was the manner in which Glasgow used its Main Drainage staff in executing work without contractors. The author considers that this factor operated chiefly in a moral way, in making the staff leaders instead of directors. As the author had on these works over ten years' concurrent experience in the execution of work both with and without contractors, the paper concludes with some remarks on the general question of public bodies carrying out such work without contractors. The opinion is given that the factor of "youth" was one of the essentials.

Two deliberate, although somewhat paradoxical, conclusions are then stated on the general question, namely :—

(*a*) That, generally speaking, an attempt by a public body to create a department and carry out works without contractors is not likely to be attended with success.

(*b*) Under special circumstances such as those which ruled on the construction of the western and southern schemes of the Glasgow main-drainage works, the holding of a staff fit and ready at once to undertake, when called upon, the most difficult sections is an ideal method.

(3) "Glasgow Main Drainage: the Mechanical Equipment of the Western Works and of Kinning Park Pumping-Station," by Mr. D. H. Morton, M.Inst.C.E. This paper deals chiefly with the following items of the works :—The Partick pumping-station of the western works; the mechanical equipment of the Dalmuir purification works; the pumping-machinery for Clydebank drainage; and the overhead sludge-tank at Dalmuir. The author also describes the mechanical equipment of the Kinning Park pumping-station.

At the ordinary meeting on the 2nd inst. new members and Associate members were elected. The elected members are Mr. J. M. Alexander, London-wall, E.C., and Mr. A. Don Swan, Montreal. The elected Associate members number seventy.

GENERAL NEWS.

The Royal Institute of British Architects.

The discussion of the papers on "The Newer Responsibilities of Architects," adjourned from the meeting of December 18 last, will be resumed at a meeting to be held on Monday, April 15, and a paper entitled "The R.I.B.A. Conditions of Contract: Some Points for Revision," will be read by Mr. A. Saxon Snell.

Art Union of London.

The Art Union of London, 112, Strand, publishes as its premium plate for 1912 an effective reproduction in colours, 23¾ in. by 15¾ in., after "Timber Haulers" by the late C. W. Furse, A.R.A. Subscribers of one guinea are entitled to a copy of the facsimile, with the chance of a prize at the Annual Drawing on April 30.

Old Sergeant's Inn.

The structure which has now been completed on the site of Old Sergeant's Inn will be known as Old Sergeant's-inn, and has been erected for the Law Union and Rock Insurance Company, who have this week removed their chief offices into the new building.

University College School of Architecture.

In the Annual Report of the University College Committee reference is made to developments in connexion with the School of Architecture. Better accommodation has been needed for many years, and the Senate, with financial help which fortunately came from an anonymous donor, were able to take up a scheme for the combination of the Schools of Architecture of University and King's Colleges. Professor Simpson is the architect of the new building. Mr. and Mrs. Baily's gift of 1,000*l.* for the rearrangement and decoration of the south cloisters and cloak-rooms is noteworthy. During the last session certificates in architecture were awarded, and Dr. J. J. Burnet was appointed Architect-Visitor to the class of Advanced Academic Design.

The Royal Sanitary Institute.

The York Congress and Exhibition, 1912, will be held from July 29 to August 3. The lecture to the Congress will be by Professor Karl Pearson, M.A., LL.B., F.R.S., on "Eugenics and Public Health," and the popular lecture will be by Professor Henry R. Kenwood, M.B., D.P.H., F.R.S.E., on "The Open Window." The President of the engineering and architecture section is Mr. J. Walker Smith, M.Inst.C.E., Chief Engineering Inspector, Local Government Board for Scotland; the Recording Secretary, Mr. A. Saxon Snell, F.R.I.B.A., Southampton-buildings, Chancery-lane, W.C.; and the Local Secretary, Mr. H. E. Henderson, Lic.R.I.B.A., York. The set subject for discussion is entitled "Modification of the Model Building By-laws from the Rural Point of View," to be opened by Mr. Halsey Ricardo, F.R.I.B.A. (Rural Housing and Sanitation Association). A Conference of engineers and surveyors to county and other sanitary authorities will be presided over by Mr. A. D. Greatorex, M.Inst.C.E., Borough Engineer and Surveyor, West Bromwich, the Recording Secretary being Mr. J. S. Brodie, M.Inst.C.E., Borough Engineer, Blackpool, and the Local Secretaries. Mr. H. Smith, Assoc.M.Inst.C.E., Borough Surveyor, Scarborough, and Mr. C. Triffit, Assistant City Surveyor, York. Subjects to be discussed are :—"Housing and Town Planning Progress," to be opened by Mr. H. Gilbert Whyatt, Assoc.M.Inst.C.E., Borough Engineer and Surveyor, Grimsby; and "Sewage Disposal in Rural Districts," to be opened by Mr. Ascough Rodwell, Surveyor, Skipton Rural District Council.

Sewage Disposal, Llanwrst.

Mr. P. M. Crosthwaite, M.Inst.C.E., held a Local Government Board Inquiry at Llanrwst recently into an application by the Urban District Council to borrow 5,000*l.* for purposes of sewerage and sewage disposal, and also for the compulsory acquirement of land for sewage disposal works. Mr. Harry W. Taylor, Assoc.M.Inst.C.E. (Messrs. Taylor & Wallin), Newcastle-upon-Tyne and Birmingham, explained the proposed works at the inquiry.

COMPETITION NEWS.

Port of London Offices.

In response to the competition announced in November last, inviting the submission of preliminary sketch designs for new Head Offices for the Authority, 170 designs were received. The Authority, on the advice of their assessor, Sir Aston Webb, C.B., R.A., have selected the six designs sent in by the following architects :—

Mr. Robert Atkinson, A.R.I.B.A., Messrs. J. A. Bowden & T. Wallis, Mr. Edwin Cooper, F.R.I.B.A., Messrs. Lanchester & Rickards, FF.R.I.B.A., Mr. J. Reginald Truelove, Mr. Ernest W. Wray.

The authors of these designs will be invited to take part in the final competition, at an honorarium of 200 guineas each. The Authority do not propose to exercise the right they reserved to themselves of inviting designs from architects other than those who took part in the preliminary competition.

Federal Capital City, Australia.

The names of the jury appointed to adjudicate on the designs sent in for this competition are given in a "Note" on p. 416.

The Weir Hospital, Balham.

The trustees of the Weir Charity, entrusted with the building of a hospital for the benefit of the inhabitants of Streatham and neighbourhood, have selected from the designs submitted in competition that of Mr. R. J. Thomson, F.R.I.B.A., of Wimbledon. The scheme has been approved by the Charity Commissioners, and the work is to be proceeded with forthwith. A perspective view appears on p. 415.

Miners' Federation Hall, Bolton.

The first premiated design in this competition is by Messrs. Bradshaw, Gass, & Hope, 19, Silverwell-street, Bolton. The second premiated design is by Messrs. Sykes & Evans, Salisbury-chambers, 7, Chapel-walks, Manchester. The third premiated design is by Messrs. Thos. E. Smith & Sons, Central-chambers, Fold-street, Bolton. The designs are not to be exhibited. The assessor was Mr. Jonathan Simpson, F.R.I.B.A.

FOREIGN AND COLONIAL.

Building in the Netherlands.

The following information is from the report by H.M. Consul at Amsterdam (Mr. W. A. Churchill) on the trade of that district in 1911, which will shortly be issued :—

The building trade was active during 1911, and is expected to continue so during the next two or three years; in fact there has never before been so much building going on in Amsterdam at one time. A new Stock Exchange, large shops, offices, and residential buildings are in course of erection, and there is a project to build a new royal palace. This activity will produce a demand for considerable quantities of building materials, furniture, sanitary engineering, heating, and illuminating appliances, etc.

Library Building and Fittings, Roumania.

The *Nachrichten für Handel und Industrie* (Berlin) of March 15 announces, on the authority of the German Consul at Bucharest, that a building is to be erected at that place for a large public library. It will contain book space for one million volumes, and accommodation for one hundred ordinary readers and thirty students. It is desired that the building should be erected as soon as possible; consequently, adds the Consul, no time will be lost in inviting tenders. The contract will include heating, lighting, ventilation arrangements, etc.

EDITORIAL SUMMARY.

The leading article, "Patriotism in Architecture," is suggested by the discussion at the last meeting of the Architectural Association, when papers on the subject were read by Mr. C. A. Voysey and Mr. Arthur Keen.

In "Notes" Column (p. 416) will be found observations on: "The Abuses of Advertisements"; "Street Accidents and Street Shelters"; "The Byzantine Revival"; "London University Site"; "Federal Capital City, Australia."

A meeting of the Architectural Association combined Camera, Sketch, and Debate Club was held recently, when Mr. Alan Snow read a paper, entitled "Neo-Grec?" An abstract appears on p. 417.

"Architects from George IV. to George V." is the title of a paper read before the Glasgow Institute of Architects, an abstract of which appears on p. 418.

A meeting of the Society of Architects was held on Thursday, when the Secretary of the Society, Mr. C. McArthur Butler, F.C.I.S., read a paper on "Some Principles of Professional Practice." An abstract appears on p. 421.

A short article on "The Municipal Buildings Extension, Glasgow," is given on this page.

The Monthly Illustrated Review of Construction (p. 427) includes: "Some Ancient Brick Arches"; "Reinforced Concrete in Great Britain"; "Weston's Patent Wall Straightener"; and "Protective and Decorative Metallic Coatings."

The Building Trade Section (p. 431) contains: "Trade Disputes and Colonial and Foreign Legislation"; "Trade Unions, 1908-10"; "Local By-Laws"; "Railway and Canal Traffic"; "Gas Power and Steam"; "Projected New Buildings in the Provinces"; and "Applications under the London Building Acts."

Book Notices (p. 434) include: "The Art of the Romans"; "A History of the Church of St. Giles, Northampton"; "Technical Arithmetic and Geometry."

In "Legal Column" (p. 435) will be found observations on: "What is Repair?" "Trade Union Law."

In Law Reports (p. 436) will be found the following: "Simpson *v.* Wright"—Action against a Contractor; "Dellar Bros. *v.* Drury"—an Appeal Case.

MEETINGS.

FRIDAY, APRIL 12.

The Institution of Civil Engineers.—Students' meeting. Mr. H. G. Hoskings on "Exminster Sewage Disposal Works." 8 p.m.

SATURDAY, APRIL 13.

Edinburgh Architectural Association.—Visits to (1) Holyrood Palace and Chapel; (2) Thistle Chapel.

MONDAY, APRIL 15.

The Royal Institute of British Architects.—Resumed discussion on "The Newer Responsibilities of Architects," and paper by Mr A. Saxon Snell on "The R.I.B.A. Conditions of Contract: Some Points for Revision." 8 p.m.

The Architectural Association.—Mr. Lawrence Weaver, F.S.A., on "Some Scottish Houses of the Renaissance." 7.30 p.m.

The Incorporated Clerks of Works' Association (Carpenters' Hall, London-wall).—The thirteenth annual meeting. 7 p.m.

TUESDAY, APRIL 16.

The Institution of Civil Engineers.—The Hon. Sir Francis J. E. Spring, M.Inst.C.E., on "The Remodelling and Equipment of Madras Harbour," and Mr. Hugh Henry Gordon Mitchell, M.Inst.C.E., on "The Alteration in the Form of Madras Harbour." 8 p.m.

The Illuminating Engineering Society (at the Royal Society of Arts, Adelphi, W.C.).—"The Lighting of Private Houses by Gas and Electricity," by Mr. W. H. Y. Webber and Mr. W. R. Rowlings. 8 p.m.

WEDNESDAY, APRIL 17.

The Institution of Civil Engineers.—Students' visit to the Constructional Steelworks of Messrs. Joseph Westwood & Co., Napier-yard, Millwall.

Royal Archæological Institute (at Burlington House).—Mr. Talfourd Ely, M.A., D.Litt., F.S.A., on "Excavations near West Marden and in Hayling Island," and Mr. Phillip Nelson, M.D., Ch.B., F.S.A., on "The XVth-Century Painted Glass in the Church of St. Michael, Ashton-under-Lyne." 4.30 p.m.

Edinburgh Architectural Association.—8 p.m.

Junior Institution of Engineers (at the Institution of Electrical Engineers, Victoria-embankment).—Paper on "The Lay-out and Erection of Electric Power Plant," by Mr. E. Kilburn Scott, M.Inst.E.E. 8 p.m.

Royal Society of Arts.—Mr. John Henry Coste, F.I.C., F.C.S., on "Municipal Chemistry." 8 p.m.

THURSDAY, APRIL 18.

The Institution of Mechanical Engineers.—Anniversary dinner, Hotel Cecil.

Society of Antiquaries.—8 p.m.

Institution of Electrical Engineers.—Adjourned discussion on the following subject: "The Causes Preventing the More General Use of Electricity for Domestic Purposes." 8 p.m.

FRIDAY, APRIL 19.

The Institution of Mechanical Engineers.—Paper by Dr. Walter Rosenhain and Mr. S. L. Archbutt on "Tenth Report to the Alloys Research Committee: On the Alloys of Aluminium and Zinc." 8 p.m.

MUNICIPAL BUILDINGS EXTENSION, GLASGOW.

FOR some time past the question of the designing of the proposed extension to Glasgow Municipal Buildings has been before the Corporation and the public, and we are glad to note that the advocates of "Municipal Architecture" have received a check. The Council have, by the small majority of three votes, refused the recommendation of the Sub-Committee, proposing to place the work in the hands of the City Engineer, and decided to invite competitive designs for the new buildings. This decision has given great satisfaction to architects locally, as for some time past the policy of the Corporation has been to place large works in the hands of officials. These include the reconstruction of the Tontine Buildings, destroyed by fire, and the McLellan Art Galleries. Much credit is due to the local Institute of Architects for the vigorous stand it has taken in the matter, and it is largely owing to their efforts that the present decision has been obtained. Mr. A. N. Paterson, A.R.S.A., along with a deputation of the Council of the Institute, waited on the Corporation on the 21st ult. and made a protest against the policy of employing officials in carrying out large architectural works.

The following among other points were made by Mr. Paterson:—

"(1) All experience of departmental work of this nature shows the cost in relation to the value of work to be greater, where everything is accounted for, than where done by outside men. Figures are not available to us for the city, but in the Scottish Board of Works Office it has been shown to be equal to 8 per cent., and in all the English instances investigated considerably more.

(2) The lack of personal responsibility on the part of the designer when an official tends to indulgence, on his part, in extravagance in design and finish, and this is accentuated when his experience has been confined to that of a public office where the personal interest is not closely involved in controlling expenditure. On the other hand, an independent architect, being freed from inside influences and accustomed to be held personally responsible for ultimate cost, is in a much better position to look after his client's interests in that respect.

(3) The Corporation, with an independent architect employed, and a competent official to advise it, is not deprived of the value of expert criticism on the design of buildings to be erected for it as it is when the official is also the designer."

In conclusion, it was pointed out that the City Engineer, while fully qualified for departmental duties, was not a trained architect, and was therefore not in a position to adequately supervise the work, which was therefore bound to fall more or less into the hands of his architectural assistants who, no matter what their qualifications were, were not personally responsible for it.

CORRESPONDENCE.

Competition Reform.

SIR,—Having had the honour of addressing you from time to time on the subject of the unnecessary expense to architects in competition work, I venture to again call attention to the subject and to make a suggestion.

I greatly regret that Sir Aston Webb could not grant the omission of the perspective view in the Port of London Offices Competition, but thank him for limiting expenditure in other directions.

Seeing that some 600*l.* was probably expended in the views alluded to, I suggest that in future if an assessor desires to see the effect of a design in perspective he should be empowered to call in assistance in respect of such designs as he considers to be in the running—the expense of so doing falling upon those who initiate the competition.

Surely a rich Corporation like the Port of London Authority can better stand the small cost of such proposal than the larger aggregate expended by the 164 unsuccessful competitors.

L.

INTERCOMMUNICATION COLUMN.

Damp Houses.

SIR,—Can you tell me of some remedy for a damp house? The dampness shows very markedly on one outer wall, and the tenants complain of dampness generally. If you can tell me of some inexpensive means I shall be very much obliged. AB EXTRA.

ILLUSTRATIONS.

Royal Academy Schools, 1911.

OUR plates this week illustrate some of the drawings sent in for the minor prizes offered by the Royal Academy. Mr. W. H. Gummer's "Design for a Place on the South Side of the River Thames," though not successful in the competition, possesses many features of interest.

FIFTY YEARS AGO.

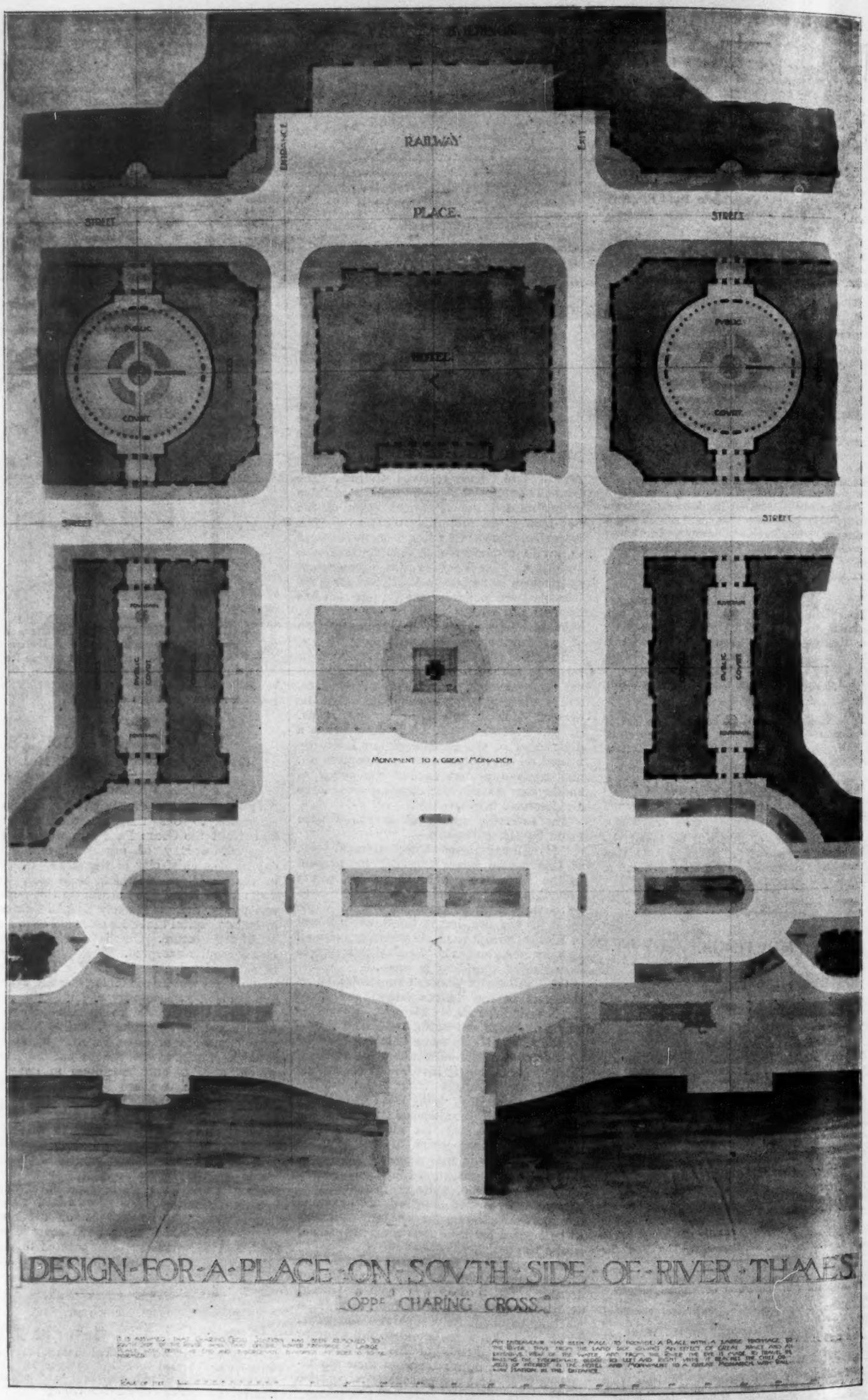
From the *Builder* of April 12, 1862.

"London Monumental."

IN our number of March 22 we gave utterance to our thoughts touching the laying out the Green Park in a way, as we believed, worthy of our world-renowned capital, the chief city of the largest empire in the world, upon which, it is said, the "sun never sets," and yet, for all this might and power, there is scarcely a small German or Italian capital that does not excel us in our street architecture. Ours is detestable, some late examples excepted. Look at our miles of ugly brick houses begrimed with smoke, without one feature of architecture the weary eye can look satisfactorily on; it is literally all "desert from Dan to Beersheba." We have heard that foreigners, after travelling some hundreds of miles, in other instances some thousands, to visit the modern Babylon, which, alas, it only resembles in its size and its sins, have asked to be shown "the *grande place*"! and Trafalgar-square has been exhibited to them. Let anyone place himself on those steps leading to the two or three rooms which we bombastically call our National Gallery, and look southwards at the higgledy-piggledy wretched-looking habitations that alone meet the eye from Charing Cross downwards, unrelieved except by a couple of drinking fountains, to which there have never been caps, and a Corinthian pillar erected to the memory of Nelson some twenty-five years ago and never yet finished.

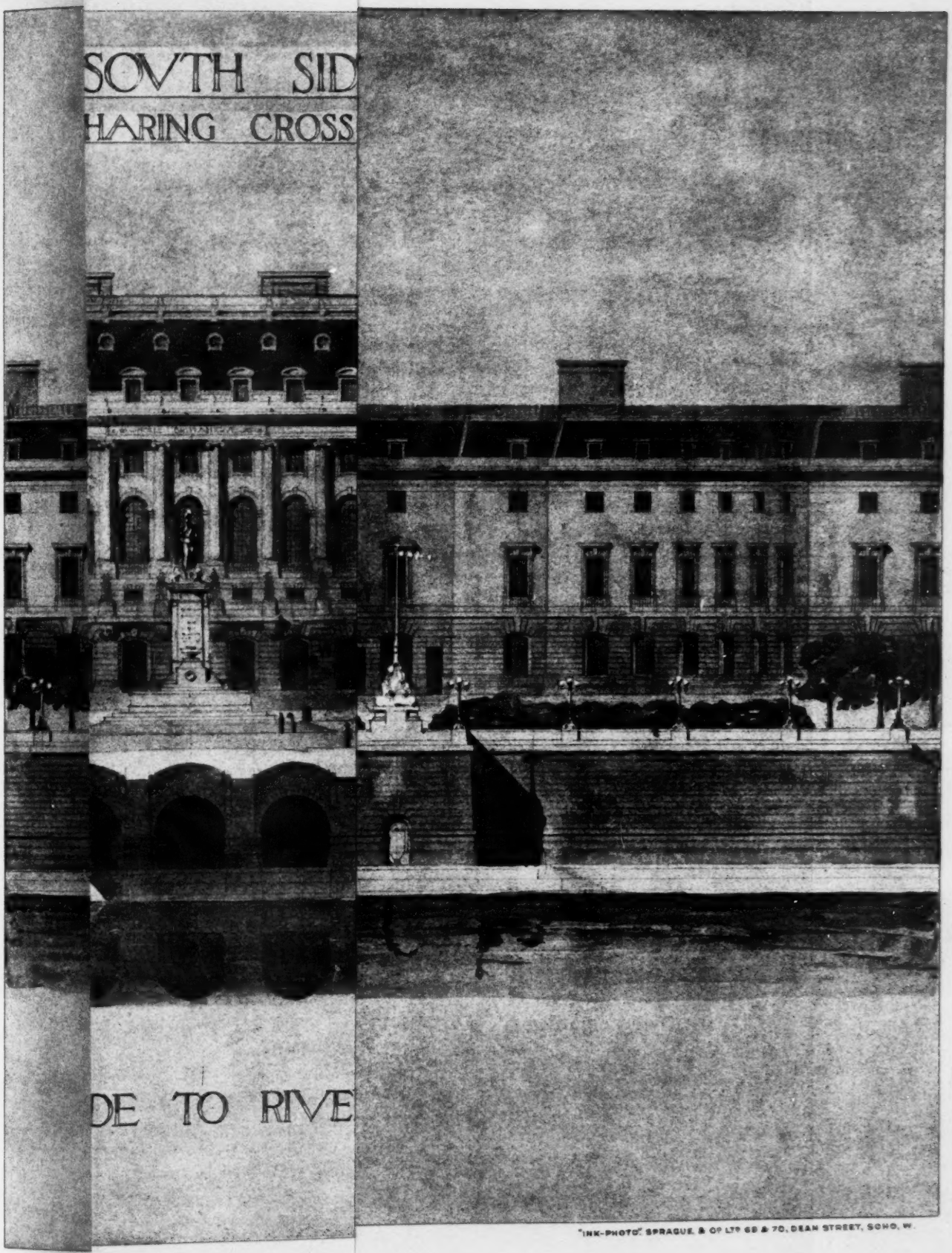
THE WORK OF MR. ARNOLD MITCHELL.

In our issue for March 29 we gave some illustrations of metalwork, wood, and stone carving, etc., and we are asked to state that the work was carried out by Messrs. H. H. Martyn & Co., Ltd., sculptors and architectural decorators, of Cheltenham.



R.A. Schools, 1911 : Detail of an Architectural Design.

By Mr. W. H. Gummer, A.R.I.B.A.



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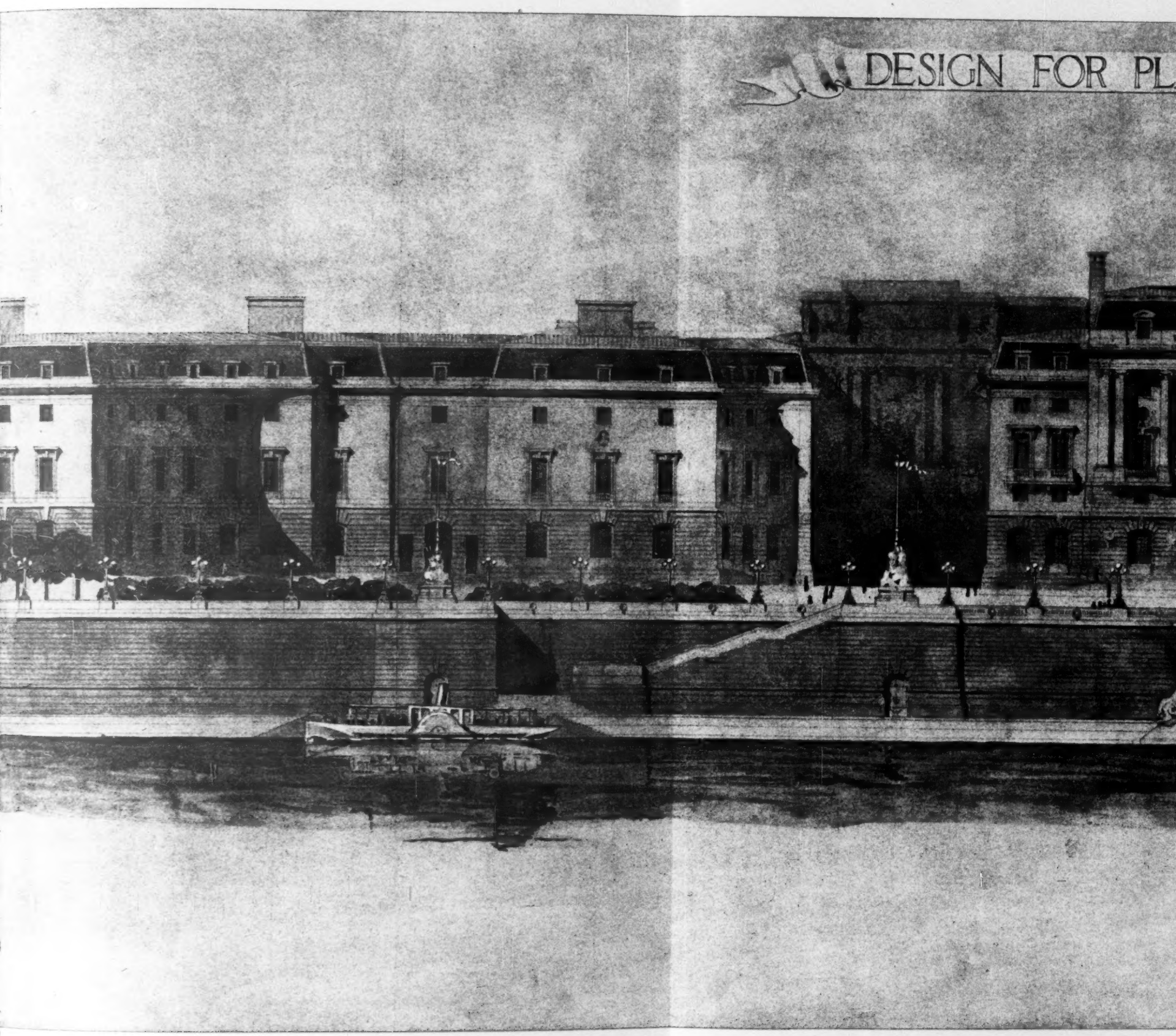
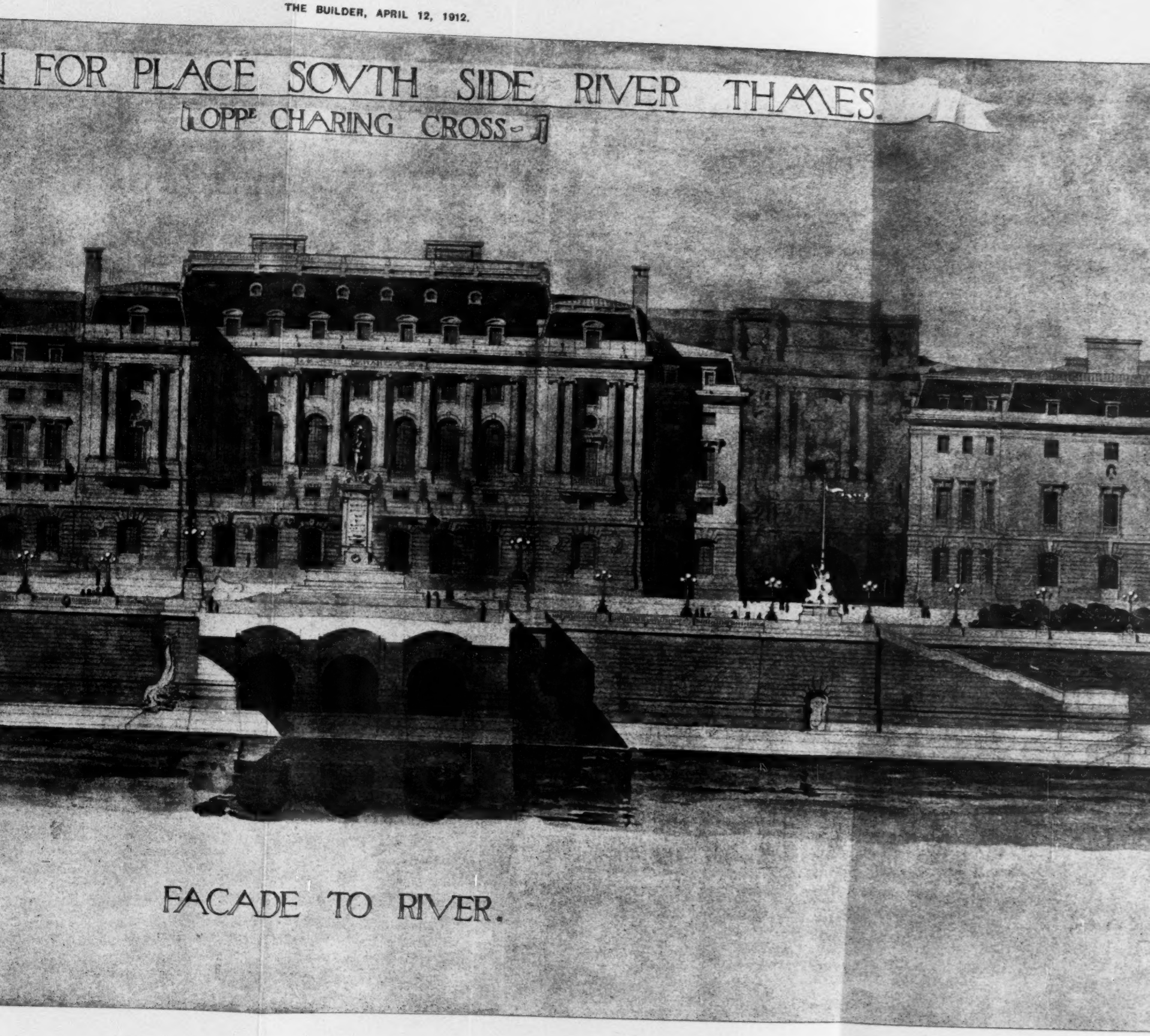
ITECTURAL DESIGN.—By Mr



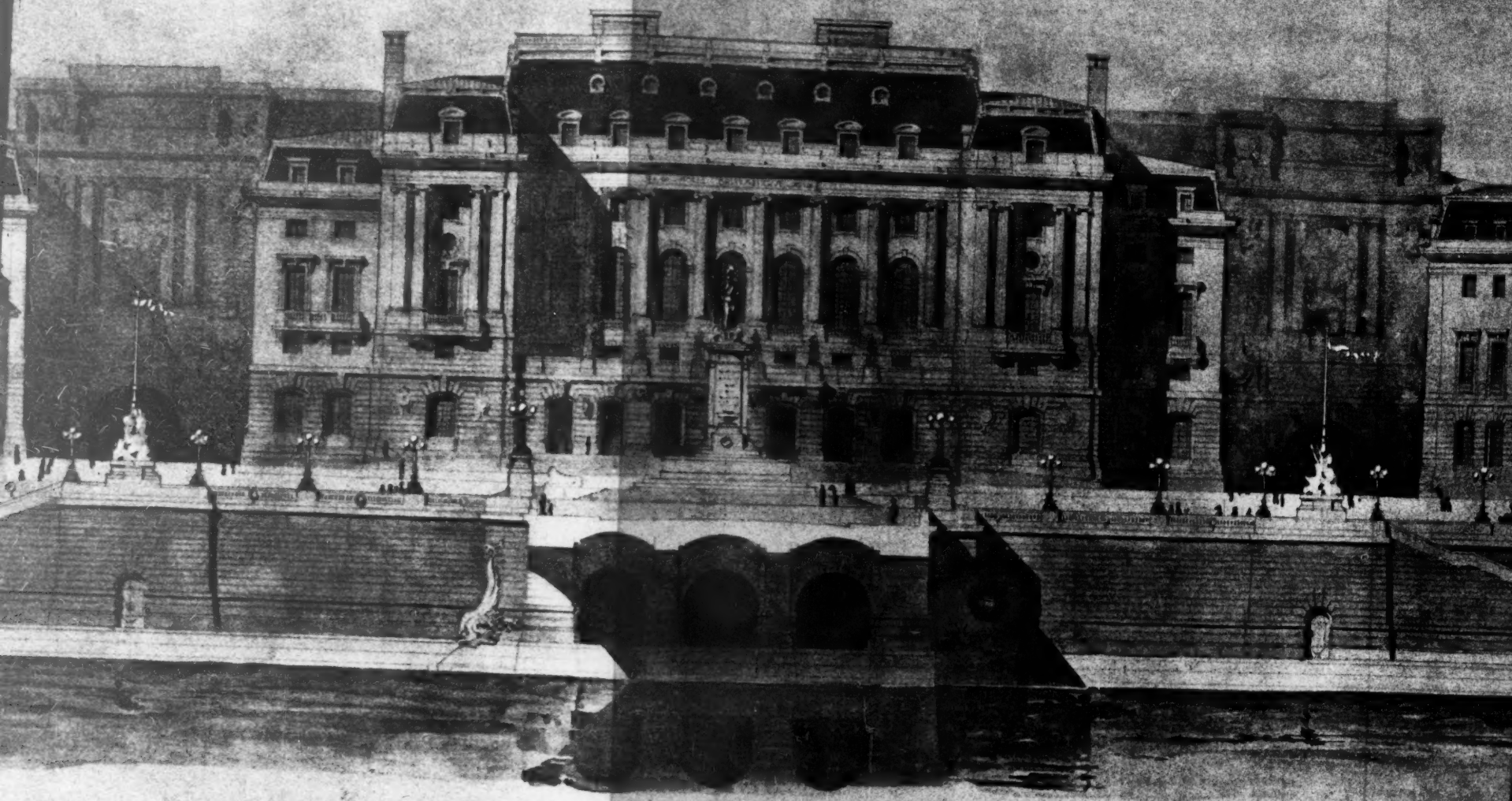
R.A. SCHOOLS, 19



R.A. SCHOOLS, 1911: AN ARCHITECTURAL DESIGN.—By Mr. W. H. Gummer, A.R.I.B.A.

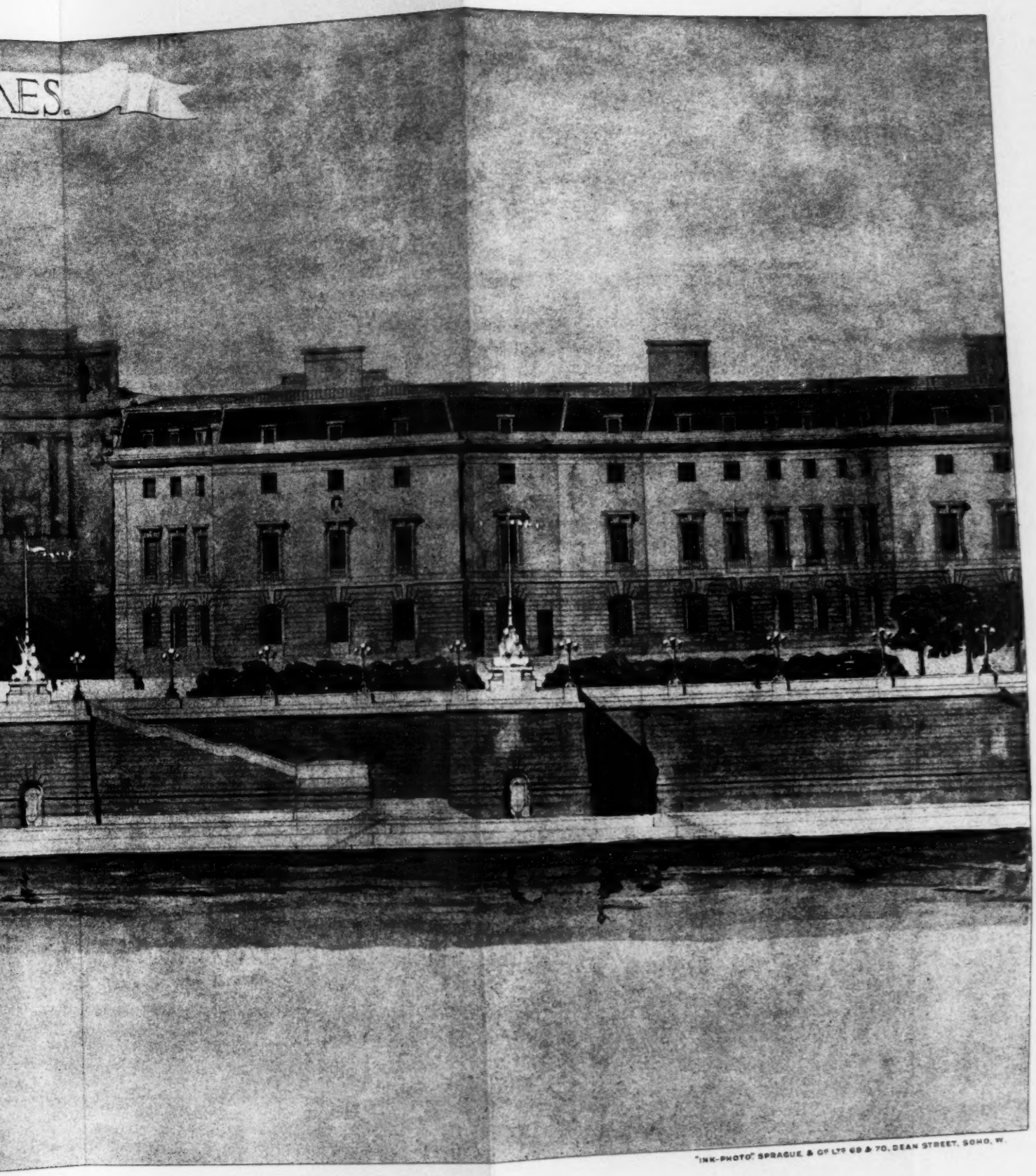
DESIGN FOR PLACE SOUTH SIDE RIVER THAMES.

OPPE CHARING CROSS.



FACADE TO RIVER.

R.A. SCHOOLS, 1911: AN ARCHITECTURAL DESIGN.—By Mr. W. H. Gummer, A.R.I.B.A.



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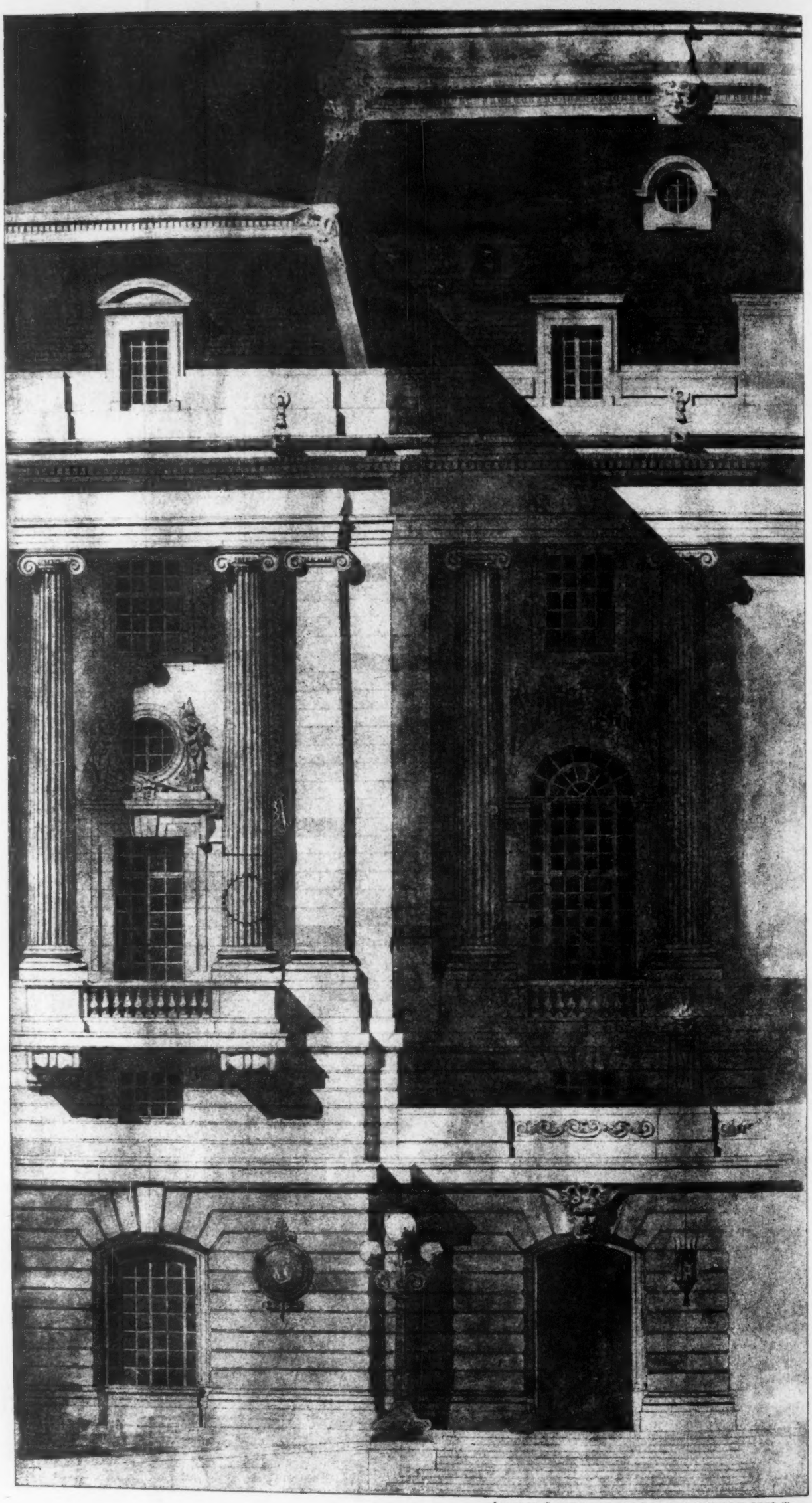

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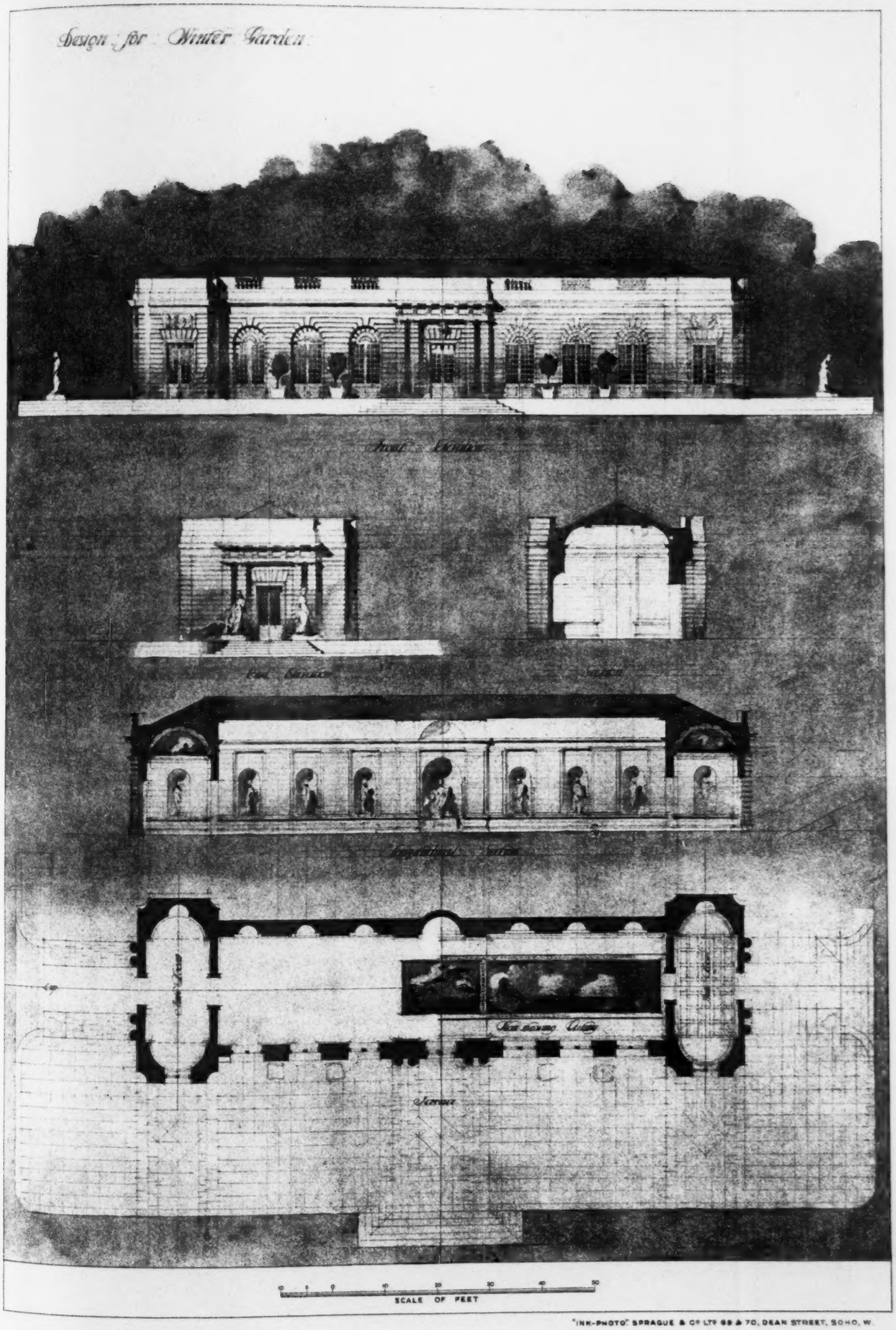
R.A. SCHOOLS, 1911: DETAIL OF AN ARCHITECTURAL DESIGN.—By Mr. W. H. Gummer, A.R.I.B.A.



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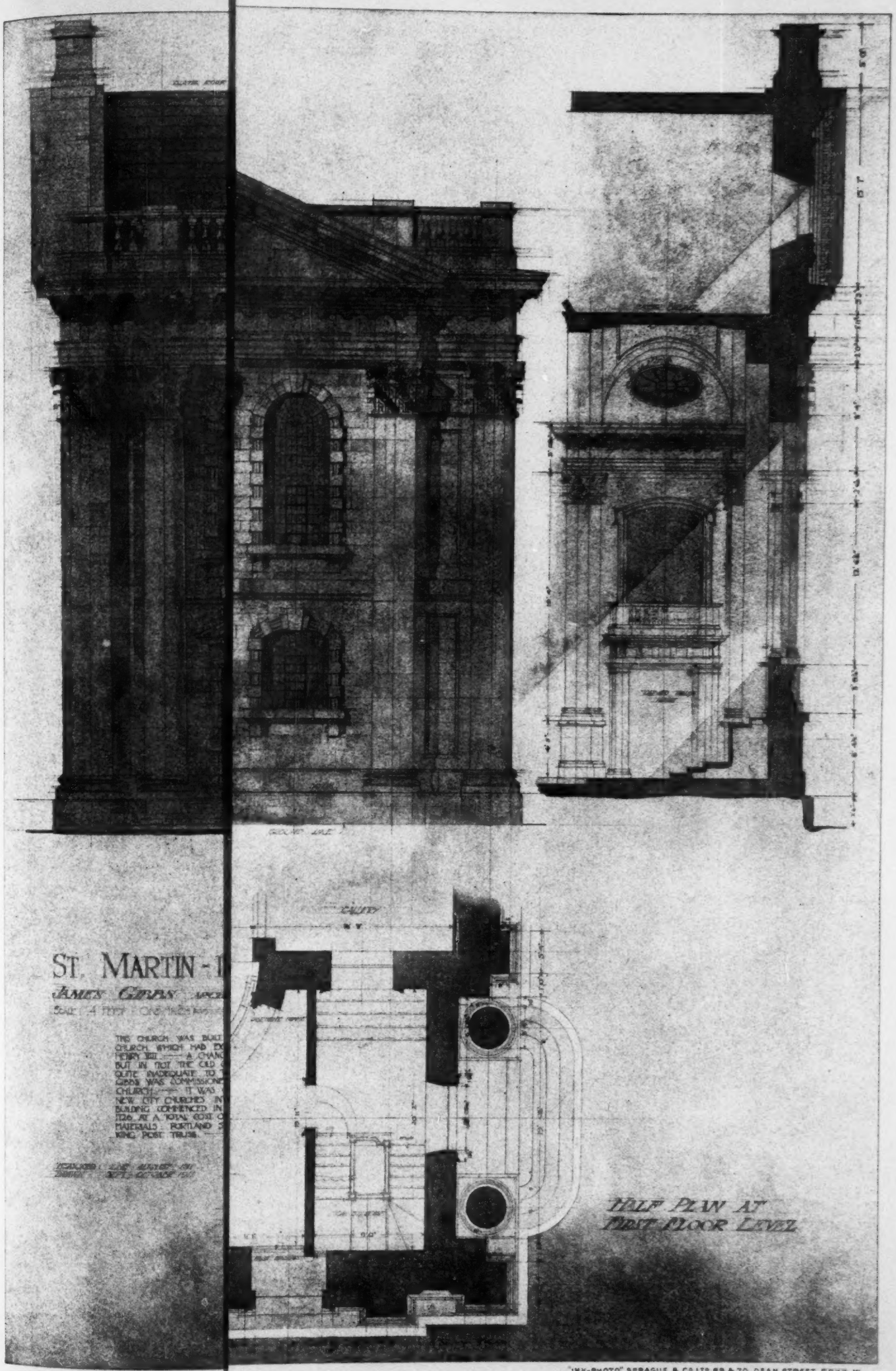
R.A. SCHOOLS, 1911: DESIGN AWARDED BRONZE MEDAL.—BY MR. CYRIL A. FAREY.



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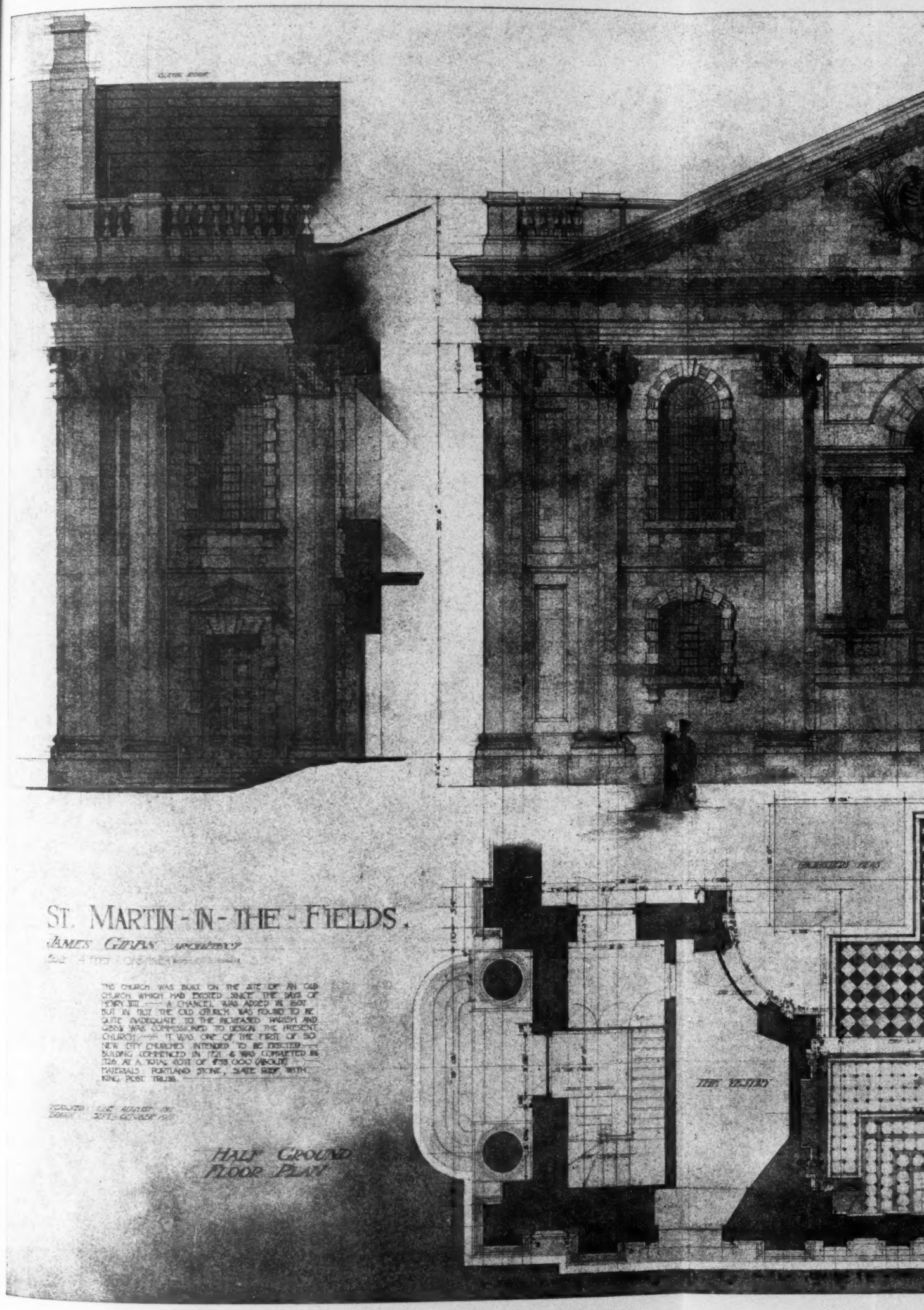
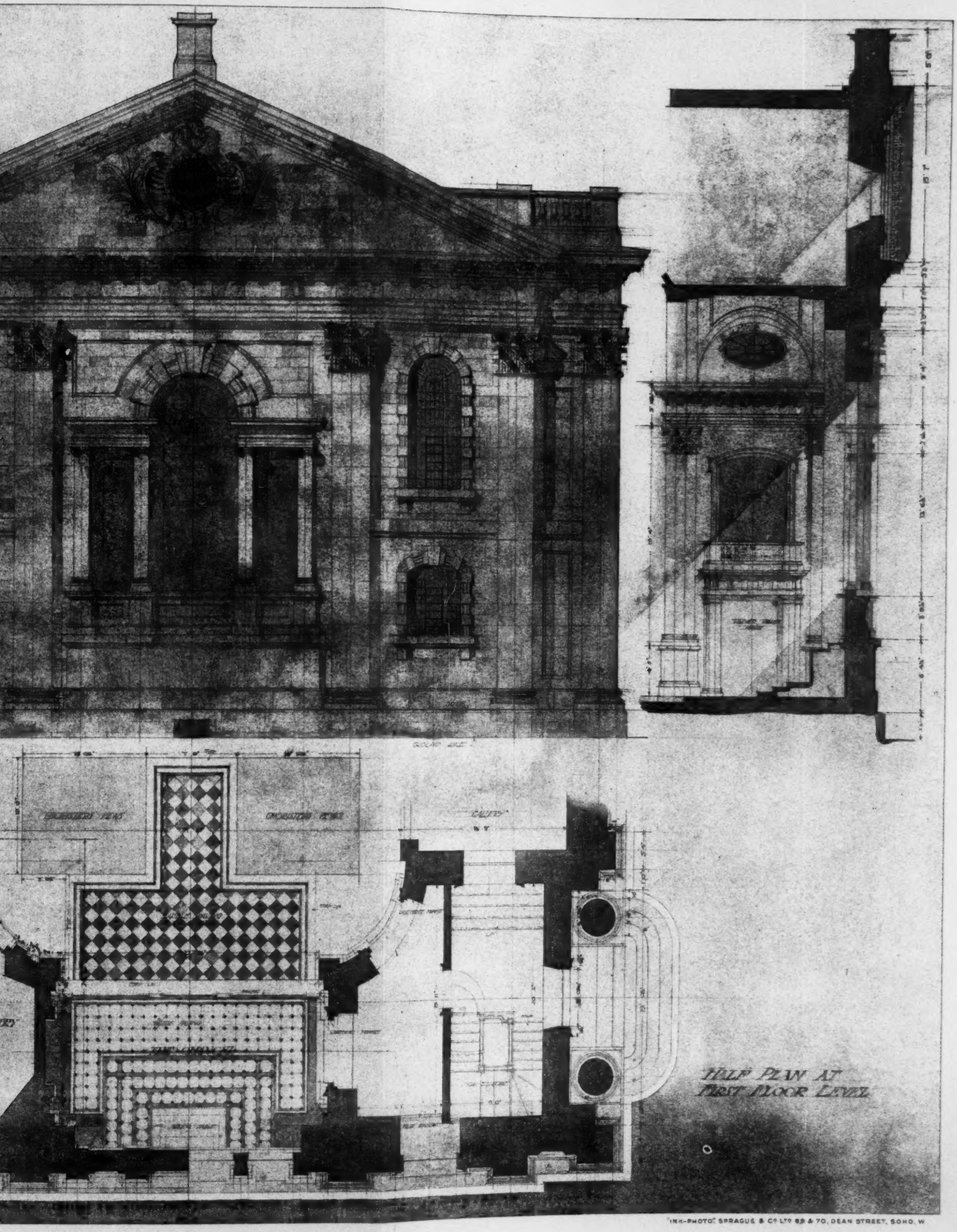
VALTER LLEWELLYN CLARK


ST. MARTIN-IN-THE-FIELDS.
JAMES GIBBS ARCHITECT
THE CHURCH WAS BUILT ON THE SITE OF AN OLD CHURCH WHICH HAD EXISTED SINCE THE DAYS OF HENRY VIII. —— A CHANCEL WAS ADDED IN 1607 BUT IN 1707 THE OLD CHURCH WAS FOUND TO BE QUITE INADEQUATE TO THE INCREASED PARISH AND GIBBS WAS COMMISSIONED TO DESIGN THE PRESENT CHURCH. —— IT WAS ONE OF THE FIRST OF 50 NEW CITY CHURCHES INTENDED TO BE ERECTED —— BUILDING COMMENCED IN 1721 & WAS COMPLETED IN 1726 AT A TOTAL COST OF £33,000 (ABOUT)
MATERIALS: PORTLAND STONE, SLATE ROOF WITH KING POST TRUSS.
HALF GROUND FLOOR PLAN



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TURAL DRAWINGS. AWARDED SILVER MEDAL.—BY MR. WALTER LLEWELLYN CLARK

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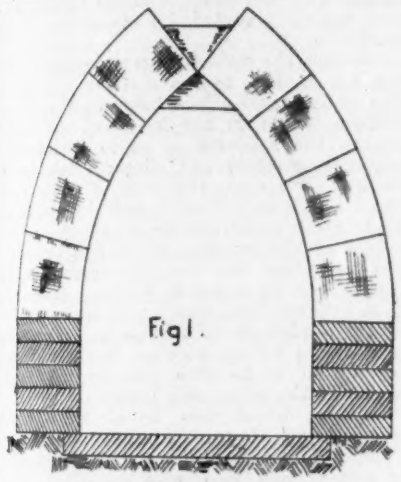
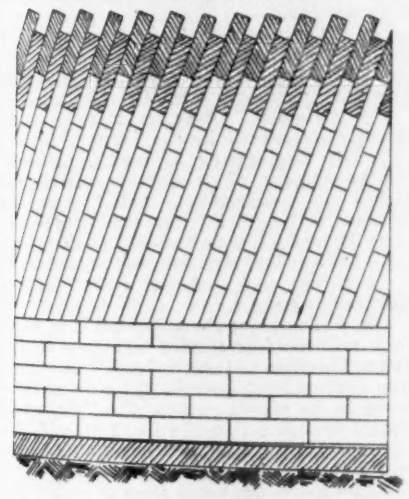
MONTHLY REVIEW · *of* · CONSTRUCTION.

SOME ANCIENT BRICK ARCHES AND A NEW ARCH.

By H. Slicer.

THE ancient Egyptians made use of the arch in their buildings, perhaps not to any great extent, but the examples left to us show that they were aware of some of the possibilities as an adjunct to construction. Several of their arches are built upon the "corbel" principle by simply projecting every upper brick beyond the end of the one in the course beneath *ad lib.* until the opening was spanned by the projecting bricks from both sides meeting at the centre of the opening, a method employed later by the Greeks (as in the Treasury of Atreus) and Byzantians.





Assyrian Drain. BC.772.

In the Temple at Abydos, commenced by Seti I. and completed by Ramessu II. (1330 B.C.), are seven vaulted chambers built side by side. The vaults are composed of tile-like bricks, built in horizontal courses upon the corbel principle, thus having horizontal joints. This type of vault gives no lateral thrust, being more stable than the ordinary voussoired arch, but it is a form unsuitable for large spans, the rise being high. It is suitable for pointed arches similar to the Treasury of Atreus, but does not readily lend itself to semicircular arches.

The bricks of the vaults of the great storerooms of the Rameseum behind the Temple, built by Ramessu II. (1330 B.C.) at Abou-Simbel, Ipsamboul, are 14 in. long by 7 in. wide and 2½ in. thick, laid four courses thick, and at intervals extra rings are added for strength. Mariette found a brick arch at Abydos of the period of the sixth dynasty having brick voussoirs with a limestone keystone, the joints being "galetted" in mortar—i.e., having joints with small stones bedded therein. In the valley of El-assanif, near Thebes, a brick semicircular arch having nine rings was discovered in the wall surrounding the tombs. This dates back to about 700 B.C.

All forms of arches were used, though the favourite type seems to have been the elliptical. Even the inverted arch was employed to more equally distribute the load along the footings in the way it is employed to-day. The reason for the favour shown to the elliptical arch seems to have been due to constructional reasons. The bricks, being composed of mud, were more easily crushed than burnt brick or stone, and any semicircular arch built of such bricks would fail first by crushing at the crown. To overcome this a sharper curve was necessary at this portion of the arch, hence arose the general adoption of the parabolic form of arch, as in the Ramesseum vaults. As a protection against the weather the top of the vault was covered with a deep layer of sand and gravel, which quickly absorbed the rain like a sponge.

Although thin arches were built by the Egyptians similarly to the voussoir method of to-day, they preferred to use their thin bricks, dispensing with centering—as they do to this day—adopting an ingenious method of erection, depending during erection upon the adhesive power of their mortar and its quick-setting properties. The end walls were first erected, and upon these the outline of the arch was marked. They then built the lower courses horizontal to as great a height as practicable, thus lessening the span, and the remaining arch bricks were laid upon these on end, the first ring being formed by building one course flat against the wall. The second course was built up against this, the whole process depending upon the adhesive properties of the mortar. Thus was the vault built. In some cases the end walls were "skew-backed" along the arch line, and the tile-like bricks laid thereon to form the arch, each course thus supporting the following one as laid, the adhesion of the mortar not being a necessary factor to be relied upon. The bricks were thus placed at an angle to a vertical plane passing across the span. This arch is much stronger than the first, gaining also extra support from the end walls. The successive layers were often built at opposite slopes, thus causing the rings to cross one another. This is somewhat similar to the construction of Fig. 1, which shows an Assyrian drain (taken from a drawing by M. Place). The arch does not in a vertical plane, but at an angle to the vertical. M. Place shows these bricks specially shaped and not rectangular, but Sir H. Layard says that the drain he discovered in the North-West Palace at Nimroud had only common bricks for its voussoirs, and that they were not specially shaped for vaulting; the space at the top being open, was filled in with ordinary bricks. The reader will notice that each ring (Fig. 1) forms a pointed arch lying in an inclined plane. It would therefore be practically impossible to build one ring alone, for it would not stand unsupported; and as for loading it, that would be out of the question. There are obvious advantages, however, attached to this inclining of the arch bricks, and if the arch could be made stable (I refer to every arch ring separately), these could be utilised. In Figs. 2 to 4 are shown such a type of arch which I have devised, the bricks being inclined to the vertical, but the whole arch falling within two vertical planes.

The bricks are really portions of the surface of a half-cone, as will be seen from Fig. 2, the intrados as it were of each ring being of varying radius instead of constant, as in the case of ordinary arches. The whole arch (Fig. 4) being built of several rings, has an intrados of constant radius, as is also that of the extrados. That each ring is staple will be seen from a consideration of any parallel slice in the ring, for such a slice fulfils all the conditions of an arch.

Such an arch is capable of a variety of treatments, and there is no reason why as an architectural feature it should not also be successful. The lower edges of the bricks could be moulded, or various coloured bricks could be judiciously employed.

Ordinary tiles could be used; being thin, there would be only a slight increase in the opening of the joints at the extrados, but to produce the best work the bricks would have to be slightly curved and narrower at one end than the other, as shown in the projection (Fig. 2).

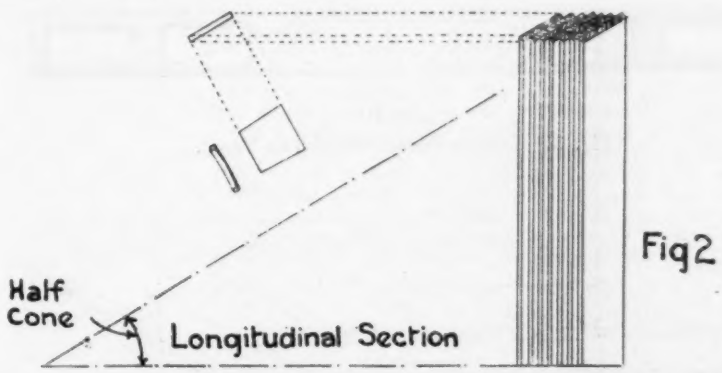
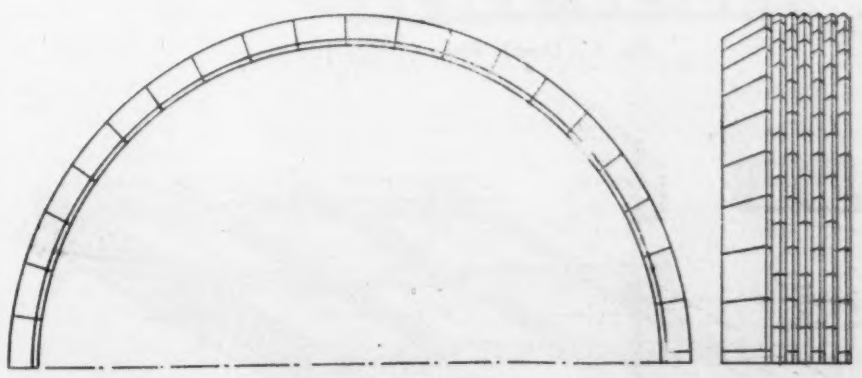


Fig2



Arch elevation

Fig3.

Side elevation.

Fig4.

REINFORCED CONCRETE IN GREAT BRITAIN.—V.

By W. Noble Twelvetrees.

(Continued from page 377.)

Indented Bar System.—In all designs prepared by the Indented Bar and Concrete Engineering Company, Ltd., of Westminster, the patent indented bar is employed, all projects designed by the company being based upon approved principles of architectural and engineering practice.

Indented bars are used simply because the company consider them to be better than ordinary round bars for theoretical and practical reasons, but their application in no way influences the general character of designs.

Consequently it will be seen that there is no indentel bar "system," using the term in a strict sense.

Indented bars of the types employed by the British company were patented in 1904 by Mr. A. L. Johnson, of St. Louis, U.S.A., and also by Mr. Lindau, under the title of Corrugated Bars, which have been largely employed in America by the Expanded Metal and Corrugated Bar Company, of St. Louis.

In his British patent Mr. Johnson claims that in his improved bar "the projections are so arranged and proportioned as to contribute to the tensile strength," this being accomplished "by arranging the projections and spaces so that any transverse section will pass through at least as many projections as spaces. The projections preferably have flat faces and bevelled edges, the latter inclined at an angle not less than the angle of friction for concrete on iron or steel, the object being to prevent splitting of the concrete by the projections of the bar. The patent covers corrugated bars of any suitable cross-section, but as made in this country the bars are either of square or circular section, as illustrated in Figs. 1 and 2.

The main advantage claimed for the indented bar is the mechanical bond it provides between the concrete and the steel, whatever be the quality of the steel of which the bar is rolled.

Although prepared to produce their bars in mild or any other variety of steel, the company state that the result of their experience is that a medium steel having a yield point of about 50,000 lb. per square inch, with an extension of not less than 15 per cent. in a length of 8 in., combines all the advantages of a higher yield point with the ductility and reliability of the mildest steel.

The mechanical bond is stated to be of special advantage:—

(1) In structures exposed to shock, vibration, or moisture.

(2) For web reinforcement in beams where the links or stirrups are necessarily short.

(3) For use in concrete of low adhesive power.

(4) In cases where high tensile stresses are developed in the steel.

(5) In members where tension cracks may be developed in the concrete, the effect of the mechanical bond being to distribute the cracks and to prevent their concentration at one or two points.

Although, as previously stated, the company do not tie themselves to any one arrangement of the bars in reinforced concrete construction, the following are forms of design which have been largely adopted by them in Great Britain.

In beams the main tension and compression bars are applied in the customary manner, some of the tension bars being bent up from different points in the length of the beam towards the supports so as to provide for resistance to shear and diagonal tension in the web, while in the case of continuous beams the bars are of length sufficient to enable them to be continued near the upper surface of the concrete across the supports, thus providing the requisite resistance to stresses due to negative bending moments. Slabs between and working with beams are usually reinforced by two series of bars at right angles to one another, the bars being bent up so as to pass through the upper portion of the supporting beams.

Columns, which may be of any desired cross-sectional shape, are reinforced by four or more longitudinal bars, braced laterally by ties of soft iron wire spaced at short distances apart.

For the reinforcement of curtain walls and interior partitions in buildings indented bars are applied horizontally and vertically to form a network near each face of the concrete.

The "Dentile" floor is a new system recently introduced by the Indented Bar and Concrete Engineering Company, combining the advantages of reinforced concrete and hollow tile construction. This floor is made in three styles for various conditions:—

(1) Mitre tiles, with two-way reinforcement.

(2) Bridge tiles, with one-way reinforcement.

(3) Bridge and L-shaped tiles, with two-way reinforcement.

Fig. 3 illustrates the mitre tile floor, where each unit consists of four triangular sections fitting together to form a closed hollow block. The arrangement permits the slab reinforcement to be placed in two directions, and it should be noted that the lip of each tile acts as a spacing piece, ensuring uniformity in the width of concrete between the tiles.

Fig. 4 shows the application of bridge tiles, arranged in parallel rows separated by strips of reinforced concrete constituting a series of beams. This type of floor can only be reinforced in one direction.

Fig. 5 illustrates a modification of the bridge tile floor, formed by the insertion of L-shaped tiles by which the rows of bridge tiles are broken so as to permit the introduction of transverse strips of reinforced concrete, thus making the construction of equal strength in either direction.

The Dentile flooring can be constructed in spans of 30 ft. by 30 ft. or more without projecting beams, and it is stated that any reliable contractor can carry out the work without previous experience, as full details of the reinforced concrete and tiles are supplied by the company, together with the proper quantities of tiles and reinforcing bars.

The specialities of the Indented Bar and Concrete Engineering Company are supplied freely to all purchasers at fixed rates, with or without designs for their application. Designs for structures in reinforced concrete, or for the Dentile flooring, are prepared for architects free of charge, providing it is understood that the specialities of the company will be specified. The company accept full responsibility for all designs prepared by their engineering department.

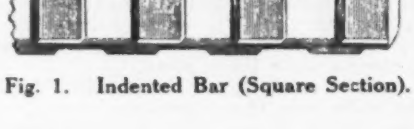


Fig. 1. Indented Bar (Square Section).

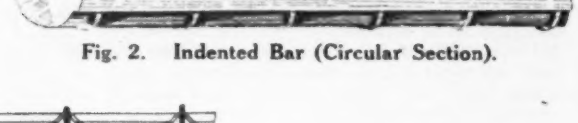


Fig. 2. Indented Bar (Circular Section).

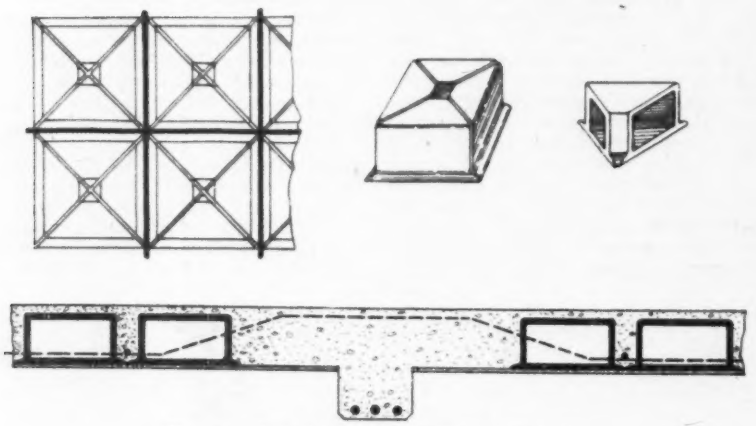


Fig. 3. Dentile Floor (Mitre Tile Type).

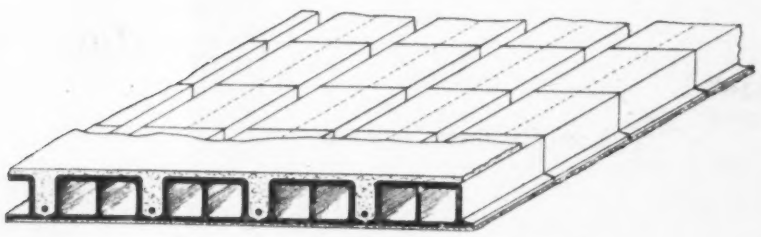


Fig. 4. Dentile Floor (Bridge Tile Type).

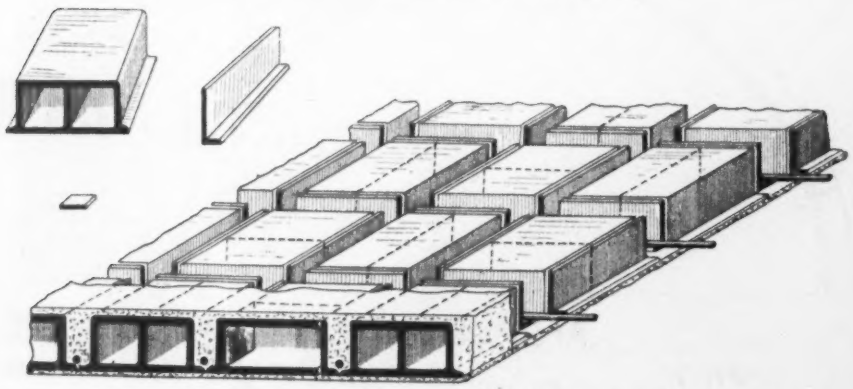


Fig. 5. Dentile Floor (Bridge and L-Tile Type).

Leslie System.—Messrs. Leslie & Co., Ltd., of Kensington, have patented a system of construction which depends upon a special form of secondary reinforcement for beams and floors. The object is to provide for clamping together the whole of the reinforcement rigidly and securely, so that none of the elements can be displaced accidentally or otherwise while the concrete is being deposited.

Fig. 1 represents in perspective the skeleton reinforcement for a continuous beam. The main reinforcement consists of straight and bent tension bars, the ends of the latter being carried over the supporting column and continued for a sufficient length beyond to resist tension due to negative bending moments.

The web reinforcement, which is the special feature of the Leslie system, consists of hangers formed of steel strip bent over at each end to enclose the main bars, or to enclose one bar while the other end is bent at right angles for anchorage in the concrete in parts where there is no bar in the upper portion of the beam. The hangers are locked in place by means of links driven over the wedge-shaped bent-over ends, as shown by the two details at the bottom of Fig. 1. The hangers may be placed vertically or at an angle, as may be preferred, and the complete skeleton reinforcement for beams can be assembled before being placed in the moulds.

The chief advantages claimed for this system are thus stated by the patentees:—The hangers are rigid, of any length, and any spacing; there are no loose members; the method of manufacture eliminates errors of workmanship; and the method of building up the skeleton beforehand obviates the risk of displacement.

It is also claimed that the rigid attachment of the vertical hangers to the main bars is quite as efficient as if the vertical members were formed out of the main bars, and that it has the advantage of enabling the hangers to be spaced at various distances apart as required.

Three forms of transverse reinforcement for columns adopted by Messrs. Leslie & Co. are illustrated in Figs. 2, 3, and 4. One of these (Fig. 2) is simply a single wire tie passing around the longitudinal bars, another (Fig. 3) is a similar arrangement wherein the ties are continued in the form of a diagonal for additional reinforcement of the core, and the third (Fig. 4) shows a spiral winding.

Messrs. Leslie & Co., Ltd., are contractors and engineers, and themselves carry out all works designed by them on their patented systems, and take full responsibility for both designs and actual construction.

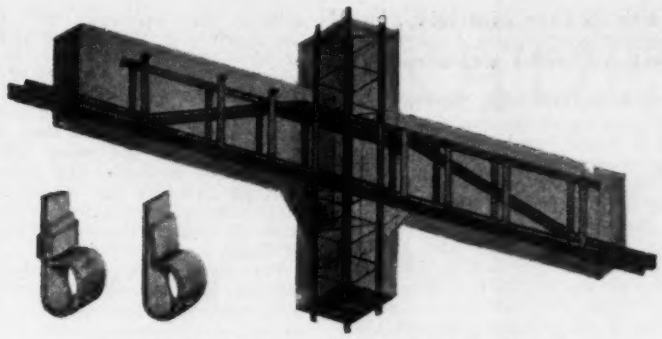


Fig. 1. Reinforcement for Continuous Beams.

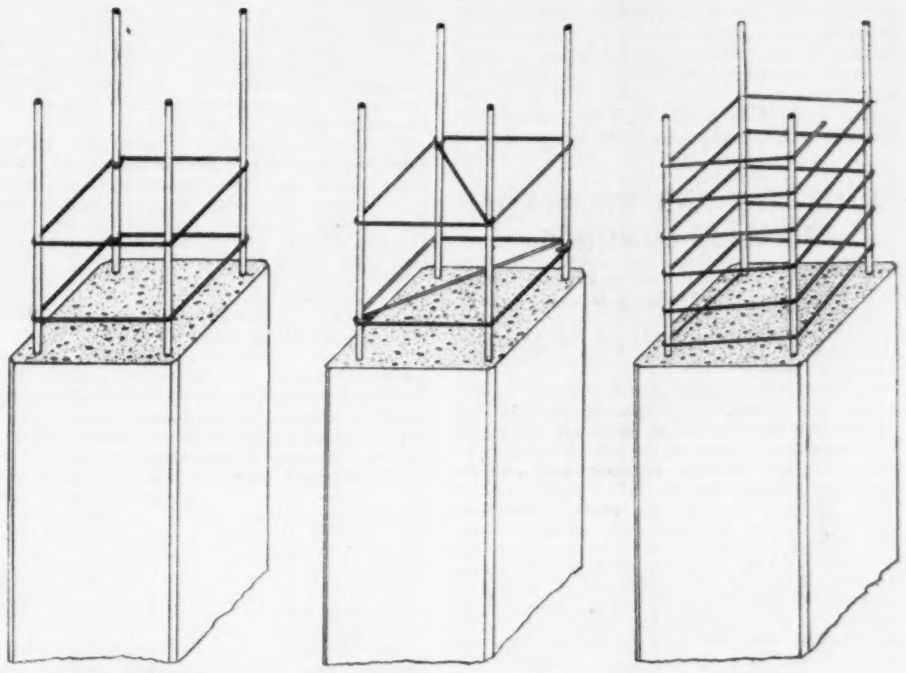


Fig. 2. Fig. 3. Fig. 4.

Leslie System. Column Reinforcement.

WESTON'S PATENT WALL STRAIGHTENER.

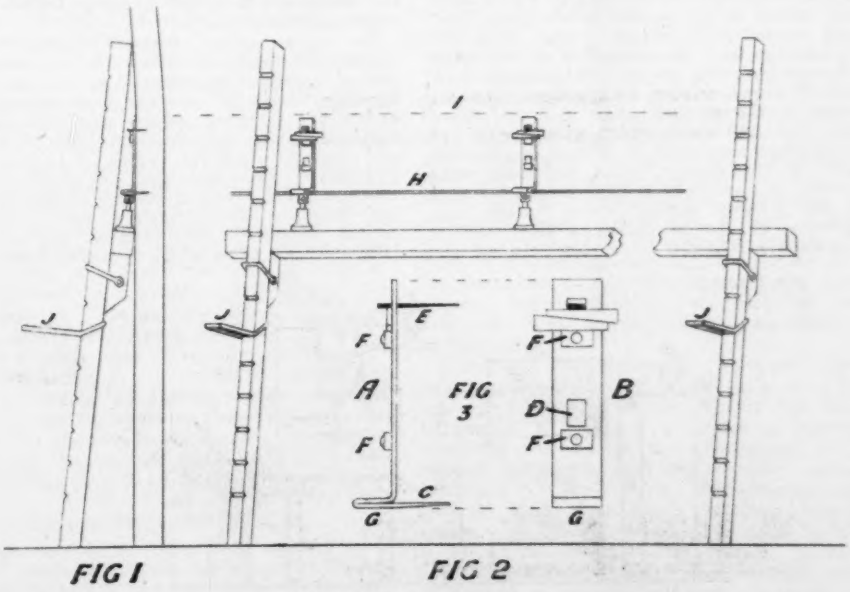
EVERY District Surveyor will tell us that the way to straighten a wall when it is out of the perpendicular is to pull it down and rebuild it. The remedy is an old and excellent one, but the man who foots the bill may wish for a less costly alternative.

That is the aim in the system here shown, and it is claimed that the wall will be stronger for the treatment. In the sketch, Fig. 1 represents a cross-section of the wall, Fig. 2 a front elevation. Supports of square timber are used of suitable height, which incline against the wall; these carry the horizontal timber, which is adjustable in height to suit each lift as the work progresses.

The wall is first freed from structural attachment, if any, and upon the overhanging side the lowest point is found at which the wall begins to incline out of plumb. Here the joint is raked out, much more deeply than for pointing, and at intervals cut with a thin crescent chisel 4½ in. deep. Into these are fixed the brackets, which are shown enlarged at Fig. 3, A being edge and B front view. The toe, C, is driven in up to the back plate, and through the holes D are driven tapering steel chisels E into the joint, the heads of these being wedged up from the abutment F, so that when fixed in place the bracket becomes a part of the wall. There must be no crushing of the brick or movement of the bracket, the size of which and the number of chisel grips it contains will depend upon the weight or mass to be lifted, and upon the extent of the work will depend the number of brackets required, in order to equalise the movement as much as possible, although they may be removed from one end and applied again at the other as the work proceeds, if the length necessitates that.

Assuming that the brackets are in place, a lifting jack resting upon the cross-timber is placed under the heel G of each bracket. The lifting requires care, and it is best to move the screws a little at a time with pauses between, in order that no vibration or rocking movement is set up, during which time the wall should be examined with a plumb rule. A crack will have opened in the joint, which may now be cleared out and wetted, cement and sand being used as a bedding for a length of ⅔ in. light hooping, which is placed therein, passing under the brackets and being turned up into a vertical joint at either end. The joint is now filled with cement, and slate is driven in above the hooping with a caulking tool, which leaves the joint ready for pointing. It will now be found that the jacks can be removed without unscrewing, as the slate has taken the weight off them. The sketch illustrates that a lift has been taken at the open joint H, and that the wall is vertical to that height; the next lift is to be taken at the dotted line I. The brackets J hold a couple of scaffold boards, from which the jacks and brackets are manipulated.

It will be manifest that in the horizontal measurement of any wall partially out of plumb or bulged the distance between any two points must be greater measured at the top or bulged part than at the base; therefore



A Patent Wall Straightener.

it must be seen that provision exists, or is made, for the closing up again of the vertical joints that have opened as a consequence of the leaning.

If it be a boundary wall, for instance, probably the pointing at the top would make it rigid, and it would require a joint cutting out with a thin cross-cut chisel at short intervals across the top, otherwise it would hit in coming back to the straight line.

With the means here shown the work of straightening is very quickly and cheaply carried out, and when the wall is pointed it is stronger by reason of the iron bond than when newly built. It is convenient to remember that pulling down and rebuilding is not the only remedy for a leaning wall, yet it is only occasionally that such a thing is needed, and appliances of this sort therefore are more the province of those who would specialise and undertake such work, which extends to the treatment of sinkages as well, in some cases avoiding the necessity of underpinning.

Mr. B. S. Weston, No. 5, Parkholme-road, Dalston, N.E., is the author of the patent.

PROTECTIVE AND DECORATIVE METALLIC COATINGS.

THE earliest known process is that of copper upon iron, by the dipping of the iron article in a solution of copper sulphate; followed early in the XIXth century by the electrical deposition of zinc, copper, nickel, silver, and the rarer metals.

The protection thus afforded from atmospheric corrosion, and the production of artistic effects, has been extended to cases where economy was an important consideration, and hot dipping of iron and copper sheets in tin, known as "tinning," and of iron sheets and bars in zinc, known as galvanising, has become very general. The last named, hitherto the least expensive method, has not, however, been wholly satisfactory, either to the manufacturer who has experienced loss of zinc by contamination with iron, or to the user who has frequently found the coating defective as a protector, and the cause of weakness in the iron covered.

Some articles could not be treated because they suffered distortion when dipped hot; and others that required "tempering" were spoilt by the temperature of the operation.

As the result of some experiments made in 1902 upon the annealing of cast-iron, Mr. Sherard Osborn Cowper-Coles, of Westminster, found that zinc dust when in contact with another metal, say, a piece of iron, and heated to a temperature of several hundred degrees below its melting-point, is quickly coated with zinc. He found that at 200 deg. C. a beautifully adherent deposit of zinc was thus obtained, as contrasted with 418 deg. C., the melting-point of zinc necessary for the dipping method. Another advantage is that the deposit is beautifully smooth, and even small screws may be treated in this way—now known as "Sherardising," from the Christian name of the inventor—without it being necessary to re-thread them.

As to the protective value of the process, seven or eight years ago, in its early days, pulley blocks were "Sherardised," which have been in use in the open air ever since, and which are as good to-day as when they left the factory, with the exception of the wear and tear on the chains. They have been exposed every winter and summer to all changes in the weather.

Another important point with regard to this process was that it showed mechanical faults in the articles. If a bad weld were present, or a crack in a tube, it was revealed by the process. Again, owing to the time character of the operation, a slow rise of temperature followed by a slow cooling, the articles were extremely well annealed; and the result was that chains and such articles as were struck from a bar, or bolts or nuts which were struck in a machine and immediately cooled by a flow of water, were actually stronger and would stand work much better after the process than before. In the case of chains, and many other goods, the increase of strength was about 5 per cent. Springs also can be "Sherardised" without their temper being affected, and large quantities of springs are treated for exposure out of doors.

The temperature of treatment, began at 160 deg. C. with mild steel, and is 200 deg. C. with cast-iron. The use of a quarter of an ounce of zinc per square foot, applied by "Sherardising," was quite as effective as 2 oz. applied by wet galvanising, a consumption of only one-eighth of the protecting metal.

The zinc coating shows for a short time a slight yellowish powder, but this soon washes off, and the protection thus afforded is very resistant to atmospheric corrosion, for the iron does not rust even when the zinc surface has been removed by abrasion.

Mr. J. W. Hinchley believes the correct explanation of the "Sherardising" as above described is that the deposition begins at a temperature just above that required to produce a film of magnetic oxide on the iron, and the deposit invariably contains iron. He concludes that the coating is a closely adherent film of a solid solution of iron in zinc produced by the interaction of the metallic zinc in the zinc dust and the film of magnetic oxide of iron.

This is an important consideration taken in conjunction with the fact that iron is now largely protected by the Bower-Barff process, which is essentially the formation of a coating of magnetic oxide of iron. That substance, $Fe_3\ O_4$, is formed upon the surface of perfectly cleansed iron by the interaction with the metallic iron of superheated steam. By heating the articles within a red-hot retort and passing thereinto a jet of superheated steam, an effectual protection is secured. Rustless iron pans are now in general use, and several of the London gas companies treat their cooking stoves in this way with very satisfactory results.

But distinct from "Sherardising" Mr. Cowper-Coles has a method, where the materials to be coated are not brought into contact with the molten metal or any of its compounds; they are placed in a separate chamber filled with zinc vapour, or placed above the molten zinc. A modification of this vapour process is applied to the inlaying and decorating of metallic surfaces. The *modus operandi* briefly consists in coating the article to be decorated with a stopping-off composition, those portions which are to be inlaid being left exposed. The stopping-off composition is applied by hand, or by stencils; or the whole of the surface is coated, and those protions which are to be inlaid removed with a suitable tool. The metal object thus prepared is then placed in an iron receptacle containing the metal which is to be inlaid in a powdered form, or subjected to metallic vapour by the process just referred to. If zinc is the metal to be inlaid, zinc dust is the powder employed. When the article has obtained the desired depth of inlay and onlay, it is allowed to cool, and then removed and brushed with a stiff brush to remove the stopping-off composition.

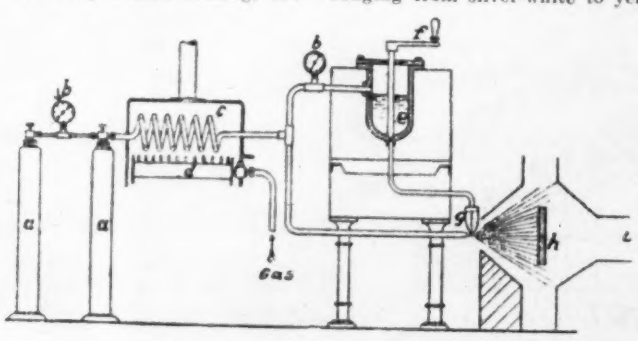
The vapour process, says Mr. Cowper-Coles, enables a variety of effects to be obtained and a number of metals to be blended together which hitherto has been impossible, and alloys of many colours and tints to be obtained in the one operation. The thickness and depth to which the metals are to be inlaid and onlaid can be controlled at the will of the operator. This vapour process of burning in and blending metals enables very beautiful colour effects to be obtained, the colours ranging from silver-white to yellow brass and bronzes of various shades, graduating to red copper. A unique and charming effect is that the inlay has not the sharp line of demarcation of damascening and similar processes, but a soft transititon from the inlaid metal to the surrounding one. For example, with an inlay of zinc in copper, the zinc is surrounded by a band or halo of a golden coloured alloy. This process of inlaying is not confined to zinc and copper, it has been successfully applied to such metals as nickel, cobalt, antimony, and aluminium.

A method having distinctive features in its procedure and in its range of applicability is that of Mr. U. Schoop, of Zurich, described in the *Comptes rendu* of 1910.

Objects can be covered with a deposit of any fusible metal or alloy, containing the components in eutectic proportions, by projecting the fluid through a suitable jet, by means of some indifferent gas under pressure. A coating of from 02 mm. = 0·008 in. to several millimetres in thickness can be thus produced upon almost any material. The temperature of the steam of metallic particles just outside the jet is between 10 deg. and 60 deg. C. The pressure used is high, being 20 to 25 kilos per square centimetre = 284 lb. to 355 lb. per square inch, or approximately 20 to 25 atmospheres. With the latter pressure the metallic particles have a speed calculated to be equal to 12½ miles per second. This enormous speed—twenty-five times that of the bullet from the gun used in the German army—of the metallic mist produces metallic surfaces of a surprisingly high density. For instance, one of sprayed tin was of density 7·42, almost equal to that of rolled tin, namely, 7·47. Tin, lead, copper, and aluminium, and its alloys, can be deposited by this process, which is also adaptable to the making of *clichés* (stereotype plates). The object to be coated is passed through a chamber, *i*, into which the molten metal from a crucible, *e*, is projected in a highly atomised condition. The spray is produced by forcing the metal from the crucible by an inert gas at a pressure of about 25 atmospheres into a very fine nozzle, *g*, when it meets a jet of gas previously heated in a coil, *e*, and passing at right angles to the nozzle, *g*. By using an oxidising gas at the jet a coating of oxide may be obtained in some cases—*e.g.*, lead peroxide may be deposited in a firmly adhering film in this way. Alloys may be deposited by simultaneously spraying two different metals from separate jets. Among other applications, the process may be applied to the coating of wood, paper, and glass, and on a balloon an aluminium coating $\frac{1}{10}$ millimetre thick is sufficient to render it quite gas tight.

It is possible to coat otherwise inflammable materials, because the metallic mist is at a comparatively low temperature when it impinges upon them, say, 40 deg. to 60 deg. C., in spite of the fact that the molten metal has a temperature of several hundred degrees (*e.g.*, for zinc, 418 deg. C.) at the instant of efflux, and so also has the atomising gas. This sudden reduction of tension of the gas cools it, and in turn it assists in cooling the metal mist which presents, relative to its weight, an enormous surface. Paper, wood, celluloid, and wax may consequently be covered, and that with a metal film of hardness greater than that of metallic films produced by casting or rolling. The individual particles of the metal when atomised as described, lose their surface tension and their globular form, and are pressed out on the surface presented as a circular film. These films overlapping, become, at the high velocity of the particles, automatically welded into a continuous homogeneous coating. Microscopic examination of the resulting surface shows it to be absolutely homogeneous, and has shown that, under the pressures employed, metals alloy much more readily and quickly than under the pressure of a single atmosphere. Different metals have, of course, to be treated according to their melting-point, fluidity, oxidising property, specific gravity, etc., whilst the crucibles employed must be suitable, *e.g.*, for aluminium and its alloys steel crucibles cannot be used; but in this respect there is nothing new to metallurgical practice. The surface to be coated is first freed from oxide or adhering dirt, and when metals are to be coated it is an advantage, although not a necessity, to heat the surface before spraying upon it. Paper may be coated with metal; the wooden propellers of aeroplanes coated in this manner have their friction considerably reduced, and wall paper, textiles, and stage scenery can all receive a metallic coating.

With a portable apparatus metallic structures, such as bridges, machinery, and the like, could be readily coated with aluminium, and thus made to withstand atmospheric influences better than any known method.



Apparatus for Metallic Coating.

THE BUILDING TRADE.

TRADE DISPUTES AND COLONIAL AND FOREIGN LEGISLATION.

AT a time when this country is recovering from a strike affecting one of the chief necessaries of life a Yellow book of considerable interest has made its appearance in the form of memoranda prepared by the Labour Department of the Board of Trade on the operation of certain laws in the British Dominions and foreign countries affecting strikes and lock-outs. We in this country far from discouraging strikes and lock-outs may be said rather to have encouraged them. It is not necessary here to trace the history of the trade unions or the evolution of the law of conspiracy in connexion with these societies. To support the above proposition it is sufficient to refer to the Trade Disputes Act, 1906, which in the case of trade disputes amended the law of conspiracy, legalised "peaceful persuasion," enabled contracts of employment to be interfered with, or the rights of persons to dispose of their labour and capital to be subject to interference, without an action being open to those whose rights were trespassed upon, and, lastly, which prohibited an action being brought in any court against a trade union in respect of tortious or wrongful acts alleged to have been committed by or on behalf of the trade union.

Thus in this country strikes are not only not illegal, but persons acting "in contemplation or furtherance" of trade disputes are placed in a privileged position, and societies who organise strikes and lock-outs have their funds secured so that persons who have suffered damage through there instrumentality can have no redress in the courts. A trade union acting in contemplation or furtherance of a trade dispute can instigate its members to smash windows without being made liable to pay compensation out of its funds. This being the case, it is interesting to see what is the attitude of some foreign countries and some of our colonies towards this question of strikes, but the subject is too large to be dealt with at all comfortably in one short paper.

Having regard to the course of events in this country, the points deserving most attention in the laws of other countries would appear to be (1) The attitude of Dominion and foreign legislation towards lock-outs and strikes generally; (2) special provisions in regard to what are known as services of public utility; (3) the liability of trade unions and their members; (4) the attitude of the Legislatures as regards "peaceful persuasion."

I. As regards the first head, the great variety in the various laws do not permit of them being treated in detail here, but it may be stated generally that in the Dominions the tendency of modern legislation has been to restrict the rights of combined action in industrial disputes. Industrial courts have been established and the rights of persons to lock-out and strike are subject to restrictions. In Queensland alone does it appear that no restrictions are placed on the right to lock-out and strike, and in Victoria the restriction is very limited. In the Dominions this legislation is often general in its terms, and therefore the services of general utility, though subject to special conditions, are not so distinctly legislated for as in other countries. In Western Australia, and possibly in New South Wales, lock-outs and strikes appear to be absolutely prohibited. In the principal foreign countries the tendency, on the other hand, is to legislate specially for services of public utility. In France and the United States there is less restriction than in other countries, and it is a matter of common knowledge that industrial disputes of a serious nature are experienced in these countries. It may, however, be observed in this connexion that the departmental memoranda contain no information as to the law in Norway and Sweden.

II. As regards the "services of public utility," these are variously defined in the different colonies and countries. In New South Wales "necessary commodities" include coal, gas, water for domestic purposes, and any article of food the deprivation of which may tend to endanger human life or cause serious bodily injury." In New Zealand, besides gas, electricity, and water supply, are included the supply of meat, the supply of milk, the sale or delivery of coal, and the transport services. In the foreign countries the legislation is aimed at securing to the public the necessary services of public utility. In these services strikes are absolutely prohibited in Russia, Holland, Belgium, Italy, and Roumania. The absence of mining from these services is a noticeable feature, but in Canada, Austria, Nova Scotia, and the Transvaal we find it specified.

III. As regards the liability of trade unions, not very much information can be gathered from the memoranda, but it must be borne in mind that the general legislation restricting industrial disputes has an important bearing on this subject, because the powers of unions are more limited than in this country. However, we find that in New South Wales, where a member of a union has been convicted of an offence against the law relating to lock-outs and strikes, the industrial court may order the trustees of the union or any branch of it to pay out of the funds a sum not exceeding 20*l*. In Western Australia no part of the funds of a union are to be employed in aiding strikes and lock-outs. In New Zealand the unions may sue or be sued, and when a majority of members are party to a strike the union is deemed to have instigated the strike.

IV. With reference to "peaceful persuasion," this seems hardly to be either legalised or prohibited in express terms, most of the legislation being directed to intimidation. In this country we have seen fit to legalise "peaceful persuasion" without duly safeguarding the abuse of this privilege.

The nearest case we can find to a limitation on peaceful persuasion appears in the Spanish law: "Any person who, in order to organise, maintain, or prevent associations of employers or workpeople, strikes or lock-outs, shall make use of violence or threats, or shall *exercise pressure* of such a nature as to constrain or force the will of workpeople or employers in the free and legal exercise of their trade or work," shall be liable to imprisonment or a fine. Again, in the Report of the United States Industrial Commission some doubt is expressed as to the legality of even peaceful persuasion. In Belgium the freedom to work is safeguarded by rendering liable to imprisonment for a period of one month to two years and a fine of from 50 francs to 1,000 francs those who "threaten the liberty of masters or workpeople by congregating in the neighbourhood of the works or the dwellings of those who direct the work or by committing acts of intimidation against people going to, or returning from, work."

In Germany, "whosoever by means of physical force, threats, insult, or defamation" shall persuade or endeavour to persuade others to take part in or to withdraw from combinations is liable to imprisonment.

In Portugal it is an offence "in any way to use pressure tending to diminish the liberty of the employed or employers in the legal exercise of their work or industry."

In the limited space of one article little more can be done than to indicate the general trend of legislation in relation to industrial matters, but much may be learnt from the collective experience expressed on these subjects by the laws of other countries. The establishment of industrial courts, besides imposing restrictions on industrial warfare, encourages conciliation, and we may at the moment in especial point out that during the currency of disputes the intervention of an industrial tribunal is far to be preferred to legislative interference by Governments. The security also of services of public utility would seem to deserve attention in this country after recent experiences.

In conclusion, it may again be pointed out that we, among all nations, appear to stand alone in the departure we have taken in the Trade Disputes Act in encouraging, rather than restricting, the militant action of trade unions and their members in relation to trade disputes.

COUNCIL OFFICES, SHERINGHAM.

These new offices have been erected at a cost of about 1,285*l*. from the designs of Messrs. Stanley Simons & Co., architects, of Sheringham, and the contractors were Messrs. Blyth & Son, also of Sheringham.

TRADE UNIONS, 1908-10.

THE Board of Trade have recently issued a Report on trade unions for the three years 1908-10. Whilst so much is being thought and said about the militant attitude which trade unions have especially adopted since they sought to become political societies it is well to remember that they have other functions, and a reference to the pages of this Report will show that their expenditure in the three years under review on sick, superannuation, funeral, and other benefits amounted to the sum of 3,180,000*l*., an increase of 14 per cent. on the three preceding years. In the same period the dispute benefit amounted to 1,120,000*l*., and unemployed benefit to 2,650,000*l*. The above are the figures relating to 100 principal trade unions, which have three-fifths of the total number of trade union members. It appears from the Report that years of slack employment tend to diminish the number of trade union members. The bad years of 1908-9 were marked by a diminution in membership of 57,000, but the more prosperous year 1910 showed an increase of 73,600 members.

In the building trade at the end of 1910 there were sixty-eight trade unions with a membership of 155,923, but all the unions in this trade showed a diminished membership as compared with 1907, the mean income per head was nearly seventeen shillings higher than in the last triennial period, a consid rable advance in contributions having been rendered necessary by the slack condition of the trade. In the three years under review the total expenditure of the principal unions in the building trade was 1,344,005*l*., of which only 5 per cent. was on dispute benefit, 31·1 per cent. on unemployment, 22·9 per cent. on sick and accident benefit, 18 per cent. on superannuation benefit. The expenditure on dispute benefit was much lower in proportion than that of many of the other unions.

LOCAL BY-LAWS.

OF recent years the work devolving upon the contractor has been rendered more arduous than formerly by the fact that he has to conform to local by-laws. Whatever the vagaries of the local authority, they must be respected, provided they are embodied in by-laws which will be upheld as reasonable by the Court. In view of the fact that those who are employed in and about the erection of a building—namely, the builder and the architect—are presumed to know sufficient of the law to protect the building owner, a few notes on local by-laws may not be out of place.

A by-law is an ordinance affecting the public, or some portion of the public, imposed by some authority clothed with statutory powers ordering something to be done or not to be done, and accompanied by some sanction or penalty for its non-observance. In order to be valid a by-law must be certain and reasonable. Lord Russell of Killowen once declared that by-laws would be unreasonable "if they were found to be partial or unequal in their operations as between different classes; if they were manifestly unjust; if they disclosed bad faith; if they involved such oppression or gratuitous interference with the rights of those subject to them as could find no justification in the minds of reasonable men." A by-law is also invalid if it is repugnant to the general law of the land, or if it adds something inconsistent with the provisions of a statute creating the same offence; but if it adds something not inconsistent that is not sufficient to make it bad or repugnant.

The due observance of by-laws which govern the erection of buildings is of great importance to the builder, for it has been held that a contract to erect a wooden structure containing the provisions of a statute is illegal, and the builder cannot sue upon it. By a parity of reasoning, the cost of work done on a building erected contrary to the provisions of a valid by-law could probably not be recovered. It was held in a Canadian case that where a man contracted to erect a building the construction of which was rendered illegal by a

subsequent by-law, he could not recover either on a contract or as on a *quantum meruit*.

Again, from the point of view of the building owner, the erection of a building in contravention of a by-law may be fraught with serious consequences. Thus, where a contract has been entered into to erect an illegal building, and any substantial part of the contract has been performed, instalments paid by the employer cannot be recovered back by him.

Another important point is that where by-laws have once been validly made and confirmed, and are in force in a district, the local authority which made them cannot dispense with their requirements in any individual case, unless the by-laws themselves give the local authority such a dispensing power. For example, it was held in Yabbicom *v.* King (1899), 1 Q.B. 444, that a local authority empowered to make by-laws for the regulation of buildings within its district has no power to sanction plans in contravention of the by-laws properly made. If, however, upon hearing an information for a breach of a by-law the justices are of opinion that, having regard to the purposes for which the by-law was made, it is unnecessary to enforce it in the special circumstances of the case, they may in the exercise of their discretion, notwithstanding that a breach has, in fact, been committed, dismiss the information or impose only a nominal penalty.

RAILWAY AND CANAL TRAFFIC.

THE annual general meeting of the Mansion House Association on Railway and Canal Traffic for the United Kingdom was held on the 26th ult., at the Westminster Palace Hotel, London, S.W. The meeting was followed by a conference of members of the Association and representatives of county, municipal, and local authorities, and chambers of commerce and agriculture, and other kindred organisations, presided over by Sir Alfred Mond, Bart., M.P. (the President of the Association), at which the proposed Government legislation respecting the Railway and Canal Traffic Act, 1894, and also certain matters dealt with in the Report of the Departmental Committee on Railway Agreement and Amalgamations were considered.

After a discussion the following resolutions were unanimously adopted:—

1. "That this Conference is of opinion that the proposed Government legislation respecting the Railway and Canal Traffic Act, 1894, as explained by the President of the Board of Trade, would be prejudicial to trade and agricultural interests, and resolves, therefore, to oppose such legislation, or any measure which may be calculated to destroy or diminish the protection afforded by the Act."

2. "That this Conference is apprehensive that legislation giving effect to certain of the recommendations of the Departmental Committee on Railway Agreements and Amalgamations will be detrimental to traders and agriculturists, as that Committee, while expressing themselves in favour of 'the more complete elimination of competition' between railway companies, and giving them greater freedom to enter into agreements with each other, fails to recommend any safeguards for traders and agriculturists under such new conditions; and resolves that no legislation will be satisfactory to traders and agriculturists that does not remedy their long standing grievances, and, in particular, restore to them the right of appeal against any rate or charge."

The gentlemen present at the Conference were subsequently received, as a deputation, by Mr. J. M. Robertson, M.P., Parliamentary Secretary to the Board of Trade, in the unavoidable absence of the Right Hon. Sydney Buxton, M.P., the President of that Department.

The deputation was introduced by Sir Alfred Mond, who was supported by Mr. Basil E. Peto, M.P., and other speakers. Mr. Robertson informed the deputation that their views should be placed fully before the President of the Board of Trade.

GAS POWER AND STEAM.

IN a lecture before the Society of Engineers and Metallurgists on the economy of gas power over steam, Mr. Alan Chorlton, of Messrs. Mather & Platt, Ltd., Manchester, claimed that so completely satisfactory and reliable had the gas engine now become that every day saw its application extended to duties so difficult and onerous that only a few years ago they would have been thought impossible of achievement. The invention of the producer, its progress and improvement to date, had, of course, extended the field of the gas engine enormously. Mechanical and thermal efficiencies had steadily increased in recent years, and the reliability of the gas engine had been brought up to the standard of the one-time omnipotent steam engine. A waste gas that was at present receiving more attention even than that from blast furnaces was that which was obtained from the by-product coke ovens. These ovens were now at work or being laid down in considerable numbers in this country, but even in this matter we were far behind the expansion that was taking place in Germany. Such was this expansion that, with the typical German ability of working together, the coke-oven owners were now selling large quantities of waste gas from these ovens for illuminating purposes in the adjacent towns. In this country the only place where such illumination was carried out was Little Hulton. Mr. Chorlton predicted that when further progress of this nature took place in districts adjacent to coalfields it would last of all affect Sheffield, which already compared favourably in the price of gas supplied retail (11d.) with that supplied in gross by the German concerns (8¼d.).

GENERAL BUILDING NEWS.

NEW PARISH CHURCH, KIRKINTILLOCH.

The plans for the new parish church at Kirkintilloch have just been approved by the local authorities, and the work will be proceeded with immediately. They have been prepared by Messrs. Clarke & Bell, architects, of Glasgow, and provide for a building to seat 1,212 persons. The church is to be built on the vacant ground in front of the existing manse, and the total cost is estimated at 14,000*l*., half of which has been subscribed, while the other half will be raised by an assessment on the heritors of the parish. The principal feature of the exterior will be a tower, about 120 ft. high, which marks the main entrance to the building. Internally, an end gallery only will be provided.

CHURCH OF ST. JAMES, ALPERTON.

The Bishop of London consecrated the new Church of St. James, Alperton, on Easter Eve. The new church, which lies between Wembley and Perivale, provides accommodation for 750 persons, and consists of nave, aisles, a morning chapel being upon the south side of the chancel. The church is built of brick with red dressings and Casterton stone externally, with Farleigh stone internally, and plastered walls; the roofs are covered with hand-made tiles. A narthex extends over the west front. The cost was about 7,800*l*. The architect was Mr. William A. Pite, F.R.I.B.A.

NEW BUILDINGS IN LONDON.

Picture palace, Lewisham, S.E.; Mr. A. Roberts, architect, 113, Lewisham High-road, S.E. Additions to Messrs. John Knight's soap works, Silvertown, E.; Mr. W. Stewart, architect, 2, Aldgate, E. Imperial College of Science, Prince Consort-road, Kensington, S.W.; Messrs. Dove Brothers, builders, 15, Studd-street, Islington, N. Shops, Notting Hill, W.; Mr. S. Newcumbe, architect, The Studios, Pembroke-road, W. Granary at Kidd's Flour Mills, Isleworth, W.; Messrs. Simon, Ltd., milling engineers, Mount-street, Manchester. Warehouse, Earl-street, Finsbury, E.C.; Messrs. Gordon & Gunton, architects, Blomfield House, E.C.; Messrs. Ford & Walton, builders, 242, High-street, Kilburn, N.W.

TRADE NEWS.

The contract for the complete installation of lifts for the new buildings of the Institution of Civil Engineers, London, has been entrusted to Messrs. Smith, Major, & Stevens, Ltd., of London and Northampton, their Standard machine with Vee wheel drive, which renders overwinding impossible, having been selected. The three main passenger lifts will be fitted with their patent full automatic button system of control.

Horden Church, Co. Durham, is being ventilated by means of Shorland's patent exhaust roof ventilators, supplied by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

AT the last meeting of the London County Council before the Easter recess the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Projections.

Dulwich.—Erection of porches to two houses on the eastern side of Underhill-road, East Dulwich (Mr. R. Johnson).—Consent.

Finsbury, East.—Projecting swing crane at the rear of No. 38, Finsbury-square, Finsbury, next to Wilson-street (Messrs. Davis & Emanuel for Messrs. A. Oppenheimer & Co.).—Consent.

Hackney, North.—Retention of four stalls at No. 4, Market-parade, Stamford Hill (Mr. S. Joel).—Consent.

Hampstead.—Retention of a bay-window and the erection of a hood at a house upon a site abutting upon a proposed new road leading out of St. Cuthbert's-road, Hampstead (Messrs. Rix & Wilkins).—Consent.

Kensington, North.—Illuminated sign at Notting Hill-gate Tube railway-station, High-street, Notting Hill (Mr. E. Moss for the Central London Railway Company).—Consent.

Lewisham.—Erection of a one-story addition to the house known as "The Retreat," Sydenham Park-road, Forest Hill (Mr. A. R. Westworth for Mr. F. Day).—Refused.

Norwood.—Retention of a building used as a coal store at No. 1, Carnegie-terrace, Herne Hill-road, Norwood (Mr. H. T. Gardner).—Consent.

Wandsworth.—Bay-windows, porches, projecting mouldings and sham half-timber work in the gables of thirteen houses on the south-western side and twelve houses on the north-eastern side of Brookview-road, Streatham (Messrs. E. & A. Wates).—Consent.

Westminster.†—Illuminated sign at No. 79, Victoria-street, Westminster (Mr. E. R. Livermore for Mr. Maison Stehr).—Consent.

Width of Way.

Woolwich.—Addition at No. 56, Vicarage-road, Woolwich, at less than the prescribed distance from the centre of the roadway of such street (Mr. E. H. Wright for Mr. H. Townley).—Consent.

Width of Way and Lines of Frontage.

Hammersmith.—Erection of a building on the western side of Galena-road, King-street, Hammersmith (Mr. J. T. Weatherburn).—Consent.

Lewisham.—Erection of eight houses on the south-western side of Cliff-view-road, Lewisham, with porches, half-timber work, and bargeboards (Mr. F. Howkins).—Consent.

Peckham.—Erection of a one-story addition at the rear of Nos. 91, 93, and 95, Rye-lane, Peckham, to abut upon the northern side of Moncrieff-street (Messrs. North & Robin).—Consent.

Woolwich.—Erection of a two-story oriel window in front of No. 56, Beresford-street, Woolwich (Mr. R. J. Bolton).—Consent.

Lines of Frontage, Space at Rear, and Projections.

Greenwich.—Erection of three houses with one-story wooden bay-windows on the southern side of Ravensbourne-place, Greenwich (Mr. G. T. Young for Mr. A. Bentley).—Consent.

Line of Frontage, Space at Rear, and Working-class Dwellings.

Fulham.—One-story building on the western side of site (Mr. V. Wilkins for the Governors of the Peabody Donation Fund).—Consent.

Lines of Frontage and Construction.

Clapham.—Iron sign at the entrance to the premises of the Direct Supply Aerated Water Company, Ltd., on the eastern side of Parkhill, Clapham (Mr. J. F. Wetherell for the Direct Supply Aerated Water Company, Ltd.).—Consent.

Lewisham.—Erection of a wood and iron building of a temporary character upon a site on the south-eastern side of Boveney-road, Lewisham (Messrs. Bingham & Broughton).—Consent.

Marylebone, East.—Iron and glass shelter at the entrance to, and one at the exit from, Baker-street station, Marylebone-road, St. Marylebone (Mr. W. Willox for the Metropolitan Railway Company).—Consent.

Marylebone, West.—Erection of an iron and concrete stand at Lord's Cricket Ground, on the north-western side of St. John's Wood-road, St. Marylebone (Messrs. McDowall, Steven, & Co., Ltd., for the Middlesex Cricket Club).—Consent.

Paddington, South.—Wood and glass show-case at No. 134, Westbourne-grove, Paddington (Mrs. A. Rubinstein).—Consent.

St. Pancras, South.—Erection of an iron and glass shelter at the entrance to the Grafton Hotel, Tottenham Court-road, St. Pancras (Messrs. Seth Smith & Monro).—Consent.

Wandsworth.†—Wooden coffee-stall of a temporary character on the northern side of Blackshaw-road, Tooting (Mr. G. Manwaring).—Consent.

Space at Rear.

Deptford.—Water-closet building at the rear of No. 3, Lewisham High-road, Deptford

(Messrs. Harling Brothers for Miss Dixie).—Consent.

Space at Rear and Projections.

Marylebone, East.—Erection of a block of flats upon a site abutting upon the eastern side of Upper Baker-street, St. Marylebone (Mr. W. Willox for the Metropolitan Railway Company).—Consent.

Alteration of Buildings.

Chelsea.—Erection of a water-closet and bathroom addition at the rear of No. 41, King's-road, Chelsea (Mr. W. Withers).—Consent.

Lewisham.—Additional story at No. 145, Perry-vale, Lewisham (Mr. A. R. Westworth for Mr. M. Healy).—Consent.

St. George, Hanover-square.—Alterations at No. 25, Hanover-square (Messrs. Bannan & Rowe).—Refused.

Cubical Extent.

Bow and Bromley.—Additional cubical extent at the premises of Spratt's Patent, Ltd., Fawe-street, Poplar (Messrs. Max Clark & Garbutt).—Consent.

Finsbury.—Additional cubical extent in respect of a proposed bank and factory building at the corner of Goswell-road and Upper Charles-street, Finsbury (Messrs. F. Boreham, Son, & Gladding).—Refused.

Uniting of Buildings.

City of London.—Uniting of Nos. 13 and 14, Blomfield-street with No. 46, New Broad-street, City, so far as relates to the erection of a glazed partition across the room used as a clerk's office at the rear of No. 46, New Broad-street, at the first-floor level, and the construction of two skylights in the roof of this room (Mr. A. R. Conder).—Consent.

Hackney, South.—Formation of a further opening between two factory buildings on the southern side of Tynte-street, Hackney (Messrs. W. S. Thomson & Co., Ltd.).—Consent.

St. George, Hanover-square.—Uniting of the Berkeley Hotel, Berkeley-street, with adjoining premises on the northern side of Dover-yard (Mr. R. Griggs for the Berkeley Hotel Company).—Consent.

Strand.—Formation of openings in the party wall at the basement and ground floor levels between No. 100, Regent-street and No. 47, Glasshouse-street (Mr. A. Dawkins for the Aquascutum Company).—Consent.

Strand.—Uniting of No. 1, Duke-street with Faulkner's Hotel, Villiers-street, Strand, by means of openings at the first, second, and third floor levels (Messrs. Batt & Hart for Faulkner's Hotels).—Consent.

Westminster.—Formation of further openings in the division walls of a warehouse building on the southern side of Vauxhall Bridge-road, Westminster (Mr. H. S. Stowell for the Hovis Bread Flour Company, Ltd.).—Consent.

The recommendations marked † are contrary to the views of the Metropolitan Borough Councils concerned.

PROJECTED NEW BUILDINGS IN THE PROVINCES.*

ABERGELE.—Extensive alterations to station for the London and North Western Railway Company.

Amersham (Bucks).—Isolation hospital; Mr. L. Hilsden, Surveyor, Rural District Council Offices, Amersham.

Arbroath.—Extensions to engineering works for Messrs. James Keith & Blackman Company, Ltd.

Bedlington (Northumberland).—School; Mr. G. F. Forrest, architect, Moot Hall, Newcastle; Messrs. J. D. Cowieson & Co., builders, Charles-street, Newcastle.

Birkenhead.—Institute (3,000*l.*); Vicar, St. Michael's Church, Birkenhead.

Bournemouth. — St. Stephen's Vicarage, Braidley-road; Mr. H. E. Hawker, architect, St. Peter's-chambers, Bournemouth.

Bradford.—Proposed buildings for epileptics and imbeciles, Rooley-lane (22,300*l.*); Mr. G. M. Crowther, Guardians' Offices, Bradford.

Brighton.—Royal Crescent Hotel, Marine-parade; Messrs. Clayton & Black, architects, Prince Albert-road, Brighton; Messrs. J. Smith & Son, Ltd., builders, 106, Old Bond-street, W.

Bristol.—Houses; Messrs. Oatley & Lawrence, architects, Orchard-street, Bristol. Sunday-school; Messrs. W. V. & H. Gough, architects, 24, Bridge-street, Bristol; Messrs. G. Humphreys & Son, builders, Woodborough-road, Bristol. Christian Assembly Rooms; Messrs. Oatley & Lawrence, architects, Edinburgh-chambers, Baldwin-street, Bristol; Mr. A. Dowling, builder, North-road, Bristol.

Burnley.—School, Lionel-street (6,000*l.*); Mr. H. H. Dunn, County Surveyor, Central-chambers, Cambridge.

Carnforth.—School (9,000*l.*); Mr. W. Rushworth, architect, Shire Hall, Durham.

Castleford.—Chapel, Carlton-street (5,000*l.*); Trustees, Wesleyan Chapel, Castleford.

Chatham.—School, Ordnance-street; Mr. C. Day, Surveyor, Town Hall, Chatham

Chorley.—Extensions to bleachworks, Common Bank, for the Chorley Bleaching Company, Ltd.

Clitheroe.—School (14,850*l.*); Messrs. J. Bleayard & Sons, 9, Railway-view, Clitheroe.

Coatbridge.—School, corner of Drumpellier-street (6,000*l.*), for the Old Monkland School Board.

Coventry.—Rectory (1,500*l.*); Vicar, St. John's Church, Coventry.

Deal.—Enlargement of school, North Wall (100 extra places); Mr. T. C. Golder, Surveyor, Town Hall, Deal.

Droylesden. — Extensions to premises (2,500*l.*) for the Co-operative Sundries Manufacturing Company.

Durham. — Parochial hall, St. Margaret's Church; Mr. W. H. Wood, North Bailey, Durham.

Easington.—Hotel, Seaside-lane, for Messrs. Nunmo & Sons, Ltd.

Eastleigh. — Isolation hospital (5,050*l.*); Messrs. H. Stevens & Co., builders, 126, Above-bar, Southampton.

Eccles.—A plan has been passed for fifteen houses and house and shop, Matlock-street, for Mr. W. A. Norman.

Edinburgh.—Motor garage, King Stables-road (3,000*l.*); Mr. T. D. Rhind, architect, 28, Rutland-street, Edinburgh. Picture theatre, Nicholson-square (2,000*l.*); Mr. W. N. Thomson, 87, Constitution-street, Leith.

Elderslie (Johnstone).—Manual instruction centre at public school for the Paisley Landward School Board.

Erines.—Alterations and additions to Erines Mansion (5,000*l.*); Mr. W. Todd, architect, Lochgilphead.

Frampton (Boston, Lincs).—Vicarage; Mr. Jas. Rowell, architect, 25, Norwood-crescent, Southport; Messrs. J. Langley & Son, contractors, Kirkton, near Boston

Freshwater (Isle of Wight).—Mansion; Mr. E. Harvey, architect, Grove-road, Ventnor, Isle of Wight.

Frodingham.—Church of St. Lawrence; Sir Charles Nicholson & Corlette, architects, 2, New-square, Lincoln's Inn, W.C.

Gateshead.—Alterations to school, High West-street (2,385*l.*); Messrs. Raven & Hitcham, builders, Gateshead.

Gedling.—School, Mapperley Plains-road (3,965*l.*); Mr. T. Bow, builder, Lemartine-street, Nottingham.

Gellifaelog.—School: Mr. J. L. Smith, architect, Aberdare; Messrs. Enoch Williams & Son, builders, Merthyr.

Gerrard's Cross.—Banking premises and shops; Messrs. Cheston & Perkin, architects, 5, Union-court, Old Broad-street, E.C.

Glasgow.—Additions to printing works; Mr. George Simpson, architect, 233, St. Vincent-street, Glasgow. Extensions to Sentinel Works, Polmadie-road, for Messrs. Alley & Maclellan, Ltd.

Grays.—Special instruction centre (2,735*l.*); Messrs. Brown Brothers, builders, Grays.

Haworth.—Public abattoir (800*l.*); Mr. James Redman, Surveyor, Council Offices, Haworth.

Highcliffe (near Christchurch).—Residence; Mr. D. J. Barry, architect, 50, High-street, Reigate; Messrs. Thomas & Edge, builders, Anglesey-avenue, Woolwich, S.E.

Hillhead (Glasgow).—Motor garage, Vinnicombe-street; Mr. D. V. Wyllie, architect, 102, Bath-street, Glasgow.

Hull.—Plans have been passed as follows:—Thirteen houses, Wellesley-avenue, for Mr. W. Garbutt; ten houses, Westbourne-avenue, for Mr. F. Neal; alterations, Waterloo Hotel, Wellington-lane, for the Hull Brewery Company, Ltd.; laboratory, Cato Mills, Wincolmlee, for the British Oil and Cake Mills, Ltd.; warehouse, Cottingham-road, for Mr. J. Mallison.

Ipswich.—Factory for the Diesel Engine Company.

Kirkheaton.—Addition to church; Vicar, Parish Church, Kirkheaton.

Leeds.—Church, Buckingham House Estates (10,000*l.*), for the Christian Scientists.

Liversedge.—Extensions to warehouse, Millbridge, for Messrs. Cooke, Sons, & Co.

Longfleet (Dorset).—Extension to church (5,000*l.*); Vicar, Longfleet.

Luton.—Factory; Messrs. J. R. Brown & Son, architects, Castle-street-chambers, Luton.

Maesmarchog.—Church; Mr. E. Evans Bevan, owner of Maesmarchog, Onlyn, and Seven Sisters Collieries, Neath.

Midsomer Norton.—Co-operative premises; Mr. W. F. Bird, architect, Midsomer Norton.

Newbiggin.—Institute (1,500*l.*); Mr. C. F. Murphy, architect, Morpeth.

Newbury.—Eleven houses (1,750*l.*); Messrs. Hoskings Brothers, builders, West Mills, Newbury.

Newquay. — School; Mr. S. Williams, builder, Bridgend, Wadebridge.

Northampton.—Plans have been passed as follows:—Ten houses, The Broadway, for Mr. A. Glenn; additions to Messrs. Rice & Co.'s foundry, Bridge-street, for Messrs. P. Phipps & Co., Ltd.; four houses, Harborough-road, for Mr. H. Weaver; addition to factory, Lower Mounts, for Messrs. Wright Brothers; additions to "Good Intent" public-house, West-street, and "New Town House" public-house, Lower Thrift-street, for Messrs. P. Phipps & Co., Ltd.

Norwich.—Beet sugar factory; Mr. R. H. Weymouth, architect, 3, Victoria-street, S.W.

Nottingham.—School, Mundella-road; Mr. Frank B. Lewis, City Architect, Town Hall, Nottingham. Buildings, Pinder-street, for Messrs. Boot's Pure Drug Company.

Nuneaton.—Dining hall at workhouse (1,325*l.*); Mr. T. H. Smith, builder, Nuneaton.

Pickering.—Club premises, Market-place; Secretary, Conservative Club, Pickering.

Prospect.—Misison hall and adaptation of old chapel as Sunday-school, etc. (6,000*l.*); Bradford Mission Committee.

Rawdon (Yorks).—Woollen shed and engine and boiler house at Park Mills; Mr. George Foggitt, architect, Ashfield, Yeadon, Yorks.

Reading. — Enlargement of Kendrick Schools; Mr. H. T. Pugh, Secretary, Education Committee, Town Hall, Reading.

Rossington.—School; Mr. J. Stuart, County Hall, Wakefield.

Ryhope.—Parish offices (1,800*l.*); Mr. G. Brown, architect, 51, Fawcett-street, Sunderland.

Salford.—Building, Chapel-street; Messrs. D. C. Thomson & Co., Ltd., Dundee. School (14,640*l.*); Mr. A. Hodgkinson, builder, Manchester. Plans have been passed for alterations and additions to "Pickwick Inn," Oldfield-street, and "Park Inn," Tatton-street, also for works, Derwent-street.

Seacliff (Haddingtonshire). — Signalling-station; Mr. G. Cunningham, builder, Victoria-street, Dunbar.

Siddall (Halifax).—Church (8,000*l.*); Messrs. Walsh & Nicholas, architects, Harrison-road, Halifax.

Silverhill (St. Leonards).—Church hall; Mr. P. Tree, architect, 63, Queen Victoria-street, E.C.

Southampton.—A plan has been passed for six houses, Hill-lane and Lumsden-avenue, and additions, 195, Shirley-road, for Messrs. Jurd & Sanders. Mr. J. Smith has lodged plans for twenty-eight houses in Wilton-road.

South Hiendley.—School; Mr. J. Stuart, County Hall, Wakefield.

South Ockenden.—Enlargement of school (2,800*l.*); Mr. F. W. Burtwell, builder, High-street, Brentwood.

South Shields.—Works at school, Ocean-road (1,410*l.*); Messrs. S. Sheriff & Son, builders, Back Woodbine-street, South Shields.

Stepps (Glasgow).—Church hall, Parish Church (2,500*l.*); Mr. John Fairweather, architect, 136, Wellington-street, Glasgow.

Swansea.—Business premises, Castle-street; Messrs. Margrave & Peacock, architects, 20, Royal Exchange, Swansea; Messrs. J. & F. Weaver, builders, Manselton Steam Joinery Works, Swansea.

Tottington (near Bury).—Premises for the Equitable Co-operative Society.

Twickenham.—A plan has been passed for six houses, Cambridge-road, for Messrs. E. Evans & Sons.

Wakefield. — Building (4,000*l.*) for the Y.M.C.A., Wakefield. Extensions to infirmary; Messrs. Simpson & Firth, architects, Wakefield.

Warrington.—A plan has been passed for twenty-two houses in Orford-lane for Mr. Peter Lawton. The Hon. Miss Wilson Patten has lodged plans for erection of Patten Hall, Museum-street.

Wednesbury.—School of science; Mr. Hutchings, Education Offices, Stafford.

Wellingborough.—Additions at schools; Mr. G. Henson, builder, 149, Midland-road, Wellingborough.

West Aberdeen.—Factory, North Esplanade (2,000*l.*); Messrs. Wilson & Walker, 181A, Union-street, Aberdeen.

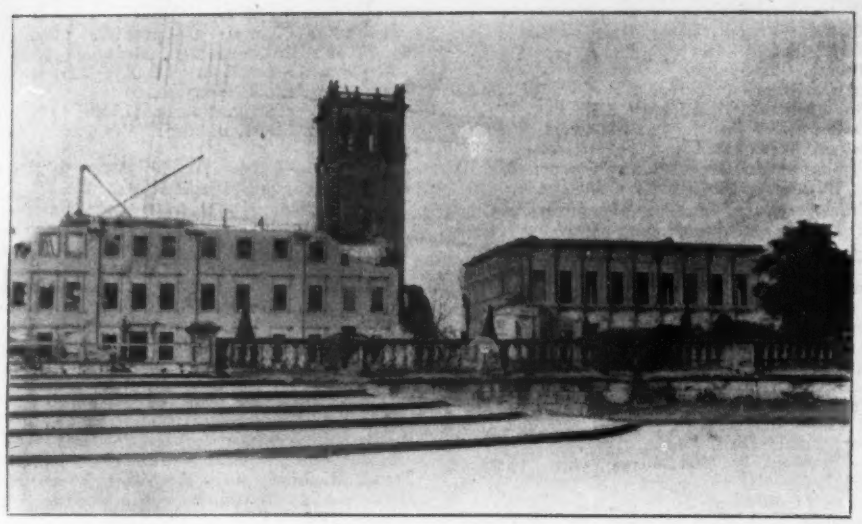
West Bridgeford.—School; Mr. L. Maggs, Shire Hall, Nottingham.

Woodhouse (Notts).—Golf clubhouse; Secretary, Sherwood Forest Golf Club, Woodhouse.

York.—Additions to premises, Mill-street, for the Tadcaster Tower Brewery.

Youghal.—Carnegie free library; Messrs. Chillingworth & Levis, architects, Cork.

* See also our list of Competitions, Contracts, etc., on another page.



The Demolition of Trentham Hall.

THE DEMOLITION OF TRENTHAM HALL.

TRENTHAM HALL, the country residence for a long period of the Duke and Duchess of Sutherland and their predecessors, is now in the hands of the housebreakers, and is in process of destruction. The Duke, for various good reasons, felt it was no longer desirable as a country residence, and his offer of it to the local authorities as a gift for the benefit of the people of the Potteries, to which it is adjacent, having been refused on the score of the cost of maintenance, there was nothing for it but to sell or destroy it, and the latter course is being taken, a sale by auction for demolition purposes having previously taken place. The tower is to be preserved elsewhere.

LOWER THAMES VALLEY DISTRICT SURVEYORS' ASSOCIATION.

A MEETING of this Association, presided over by the President (Engineer and Surveyor to the Chiswick Urban District Council), was held at the Town Hall, Twickenham, on Saturday, 30th ult., and was well attended.

A further discussion was raised on the motor omnibus and similar classes of traffic passing over all classes of roads. At the Association's meeting on February 3 the following resolution was passed:—"That, having regard to the great damage caused by motor omnibuses and other similar vehicles passing over various classes of roads not originally constructed to carry such traffic, this Association is of opinion that further powers should be conferred on Local authorities, enabling them to define the routes (other than county main roads) to be taken by any service of motor omnibuses or other motor vehicles licensed for hire or for the carriage of goods into or through their respective districts." It was further resolved:—"That a copy of the above resolution be sent to the Institution of Municipal and County Engineers, and that the Council of the Institution be requested to consider the subject-matter of such resolution, and to take such action as they may deem necessary." The Association received a letter from the Secretary of the Institution of Municipal and County Engineers stating that the Council had given careful consideration to the above resolution, and, on the recommendation of the Roads Committee, to which the matter was referred, the Council had resolved with regret that the resolution is of so far-reaching a character as to lend itself to unreasonable application, and, having regard to representations made by the Institution to the Local Government Board, pressing for amendment of the Highways and Locomotives Act, and the Heavy Motor Car Order of 1904, they could not see their way at present to take any further steps in the direction suggested by the resolution. The above Association were unanimously of opinion that possibly the wording of the resolution had not sufficiently marked the importance that it was intended to give powers dealing with district roads and not main roads, and recommended that the Institution of Municipal and County Engineers be again asked to consider the matter apart from the wording, and to consider it in the spirit of the resolution. It was further resolved that the Committee who had this matter under consideration be requested to allow the President of the Association to interview them regarding this matter, so as to be able to draw their attention to the views taken by this Association, they feeling that this matter is one of the greatest importance, more especially that, since passing the above resolution, the matter has been taken up on somewhat similar lines by the Metropolitan borough councils.

The Association also had under consideration the district nominations to the Council of the Institution of Municipal and County Engineers.

The Association also had under further discussion the visit to the sewage disposal works now in course of construction at Surbiton, when a vote of thanks was passed to Mr. Mather, the Engineer, and it was decided to request him to read a paper with reference to the works at an early date in the next session.

BOOKS.

The Art of the Romans. By H. B. WALTERS. (Methuen.)

MR. WALTERS'S book is fortunate in the time of its appearance. Last year's National Exhibition at Rome, the recent foundation of the Society for the Promotion of Roman Studies, the re-organisation of the British School in Rome on broader lines now under discussion are a few of the many circumstances which have tended to revive interest in the art of ancient Rome, which had, perhaps, been rather overshadowed of late by the more penetrating fascination of Hellenic art. If the Roman art never reached the same calm heights of faultless achievement, it is yet of permanent importance in the general history of European art. For if Rome originated little or nothing in the strictly artistic domain she borrowed from various sources, combined and assimilated, then transmitted and diffused, and thus provided the starting-point of much that came afterwards. In art, as in politics, the Romans were great as organisers and administrators. But before they came under the spell by which Greece enslaved her conquerors they were by national temperament rather contemptuous of art. Mr. Walters aptly quotes the prophecy of Capys—"Leave to the Greek his marble nymphs"—though, by the way, he is unfair to poor Macaulay, who may have been, as he says, a Philistine, but cannot be convicted of it on such evidence as this. Had he not expressly stated in his preface that "the author speaks not in his own person, but in that of ancient minstrels," we might have guessed that the words of "Capys, the sightless seer," do not express Macaulay's own sentiments any more than Lady Macbeth does those of Shakespeare. Be this as it may, Mr. Walters does a useful work in attempting to estimate the extent and limits of Rome's debt to Greece and the share due to the Etruscans and other races absorbed in the Roman dominion, as well as in calling our attention to those branches of art in which Rome can claim some originality. In architecture, while the Romans themselves, or the foreign artist whom they employed, never made a completely artistic union between their own arcuate construction and the columnar architecture of Greece, yet by retaining the latter as a decorative system and applying it to far more varied uses they removed it out of its own limited sphere, and thus extended the range of its potentialities. In this they rendered a signal service to architectural evolution, as also by that genius for co-ordination which enabled them to conceive plans of the utmost complexity, comprising numerous buildings and apartments, yet so grouped as to produce a single orderly and symmetrical whole. That the author is not an architect himself we gather from his rather odd use of certain architectural terms. Thus, on page 86, "entablatures curved or triangular" are spoken of, when "pediments" would be clearer; and on page 40 the arch of Titus is described as having a "doorway," where "opening," "arch," or "arched opening" would be more usual. It may be doubted whether the claim which Mr. Walters appears to make for the Romans of a monopoly of circular buildings is quite justified. In Greece several examples of circular temples are known—*e.g.*, at Epidauros, Delphi, and Olympia. It is ungrateful, however, to quibble at these unimportant details, for the chapter which he devotes to Roman architecture is as good as any in the book. It gives a clear and concise *résumé* of the subject, and brings out extremely well the salient points in connexion with Roman methods of construction, planning, and decoration. Some branches of decoration are, furthermore, fully treated of in a later chapter devoted to painting and mosaic. A garden scene here reproduced from the walls of Livia's Villa at Porta Prima, Rome, is a peculiarly attractive example of the art of fresco, and throws some light on Roman garden design. It appears to represent the wilder portion of a garden as seen over the balustrade from within the more formal pleasaunce. Under mosaics, as, indeed, elsewhere, special attention is devoted to examples found in Britain.

In the domain of sculpture Rome's debt to Greece is enormous. To Roman admiration of Greek sculpture we owe the preservation of many works of the great periods that might otherwise have perished, while others were perpetuated by reproduction and imitation. Again, a great part of the more definitely Roman sculpture was executed by Greeks. As Mr. Walters points out, however, individual Greek works were seldom copied literally, the artists aiming rather at reproducing types created by the great masters or the style of some school or period, and allowing themselves considerable latitude in their interpretation.

Rome also owed much to Etruscan tradition and influence. Though this probably also, in most cases, was an indirect debt to the Hellenes, this was less so in respect of portrait sculpture, which was practised with immense vigour and success in Roman times, so much so, indeed, that it may be regarded as the Roman art *par excellence*. The Etruscans had produced remarkably lifelike sepulchral effigies from very early times, and the Romans themselves, with their custom of keeping *imagines* or wax likenesses of deceased ancestors in their *atria*, were favourably disposed towards portraiture. Their practical, matter-of-fact character inclined them much more than the idealising Greeks to the perpetuation of the actual features and expression of individuals. But if realistic personal likenesses are thus among the principal achievements of Roman art, that it was not incapable of some degree of idealisation is proved by the creation of the beautiful Antinous type. The same objective bent of the Roman temperament also tended to the production of vivid *genre* scenes to a much greater degree than was the case with the Greeks.

Mr. Walters has much that is instructive to say on other aspects of the subject—on

sarcophagi and monumental reliefs, on the "continuous" style and "illusionism," on various branches of metalwork, on gems and pottery, and his book provides a most useful summary of the views held by various *savants* on these and kindred subjects. If we have any quarrel with him it is that he is too modest. We sometimes wish that he could forget Riegl and Mrs. Strong, Wickhoff and Strzygowski, and speak with the authority to which his learning entitles him.

A History of the Church of St. Giles, Northampton. By Rev. R. M. SERJEANTSON, M.A., F.G.A. (Northampton: W. Mark & Co. Price 7s. 6d. net.)

A GOOD deal of architectural interest pertains to two of the old churches of the ancient borough of Northampton, namely, those of St. Sepulchre and St. Peter. All Saints, the central church of the town, though rebuilt after the great fire of the XVIIth century, possesses a history closely linked with the various important incidents that tell of the civil and religious evolution of the townsmen. The story of these three churches has already been successfully told by Mr. Serjeantson, in as many volumes, at intervals during the last few years. He has now crowned his work by producing a fourth book of some 400 pages, lavishly illustrated, descriptive of St. Giles, the last of the four old churches.

Special interest attaches to the last of these churches, for the municipal life of a thriving and energetic borough centred round it to a remarkable extent. It was within the nave or the churchyard of St. Giles that the often turbulent and exciting assemblies of the burghers took place, and here, too, the mayors, bailiffs, coroners, and other town officials were elected year by year. Eventually, after a disastrous election in which there was loss of life, an Act of Parliament was passed in 1488 whereby the franchise of the burghers was considerably restricted, and the elections placed in the hands of a select company known as the Forty-Eight. Henceforth, the annual proceedings took place within the small Town Hall. Churches dedicated to St. Giles stand for the most part in lonely districts, and in those cases where they were connected with large centres of population they were usually placed without the town walls. This was the case with regard to St. Giles, Northampton, when founded in the early Norman days. It then stood on the outside of the Anglo-Norman wall to the east of the town. When the later mediæval walls were built about 1300 this church was brought within the extended walled area, near to the east gate of Abingdon-street. Mr. Serjeantson's conjecture as to the reason of the townsmen, in their aim at independence, selecting St. Giles for their meeting place, rather than the central and larger building of All Saints, is probably correct. This church was the farthest removed from the overshadowing influence of the royal castle on the west of the town, and also equally remote from the ecclesiastical control of the powerful priory of St. Andrews, which stood just within the northern gates.

Students of the early municipal history of England will not be surprised to find the townsfolk of Northampton using the nave of a church for their assemblies. Mr. Serjeantson instances like usages (at Grantham and at several of the Cinque Port towns), but such a usage appears to have been the custom up and down England rather than the exception. Such instances as Cambridge, Norwich, and Salisbury readily come to mind.

Mr. Serjeantson shows much painstaking research in all his investigations, particularly as to the pedigrees and life stories of those families which were in any special sense connected with the church and parish. He has been able to add no fewer than eleven names to former lists of the vicars of St. Giles, which he takes back to the year 1239. In two particulars he supplies special information on points of far more than local interest. Fairly able ecclesiologists often go wrong on the subject of anchorites or recluses, for whose retired lives special cells were not infrequently built, attached to the chancels, and occasionally to other parts of mediæval church fabrics. There was at St. Giles an anchoress or female recluse, in the XIIIth century, of the name of Eva, who obtained a considerable repute for sanctity. On this incident the writer has built up an excellent, reliable, and tersely written essay which sets forth the real facts associated with the lives and customs of such individuals.

The other point of yet wider interest is an outline life of Robert Browne, the founder of the Congregationalists or Independents. This able but imperious and fickle man, after a quarter of a century of peaceful life as a beneficed priest of the Church of England, when over 80, again quarrelled with the authorities, was placed in gaol at Northampton, where he died, and was buried at St. Giles on October 6, 1633. Mr. Serjeantson has unearthed a considerable number of facts from the records at Peterborough, altogether unknown to his previous biographers.

The long chapter on the architectural history has been entrusted to the capable pen of Mr. A. Hamilton Thompson, F.S.A. The fabric, consisting of chancel with north and south chapels, central tower with transepts, clearstoried nave with south aisle, two north aisles, and north and south porches, well merits closer attention than it has hitherto received. The plan of the early Norman church was cruciform with a central tower space, and was probably aiseless. There are evidences that the south aisle has been built up against a previously-unpierced wall, and the same was presumably the case with the northern arcade. A blocked-up south doorway of XIIth century, or possibly XIth century date, shows that the chancel was longer than an ordinary early Norman chancel. Restorations have renewed most of the arches of the base of the central tower, but they are known to have been distinctly Norman, and some remains of the original archway on the north side of the tower have been recently uncovered. The west and north doorways of the body of the church are also early Norman, though in both cases set back, rebuilt, and not a little renewed. As the XIIth century proceeded important alterations took place. The high square turret at the north-east corner of the tower, with newel staircase, is of massive form, and was probably intended originally to be external. The belfry doorway, with sections and mouldings, is boldly drawn by Mr. Thomas Garrett, who also supplies other architectural sketches.

At the dawn of the Gothic period the chancel was enlarged in width as well as in length, and by this proceeding the turret was brought wholly within the fabric. Two of the lancets of that period remain, and the upper part of a third. The rebuildings and enlargements of the XIVth century are next discussed and described with much lucidity, the new east wall, the transeptal chapels, the chancel chapels of different dates, and the aisles and arcades of the nave. The late XVth century and early XVIth century work was chiefly confined to enlarged windows. A record allusion to "the new work of our Lady Chapel" is of the year 1512.

About a century, however, after the completion of these last alterations there came about the disastrous fall of the central tower. The exact date of the collapse of the tower and its rebuilding are thus concisely preserved in a contemporary MS. :—

"1614, St. Giles steeple fell downe.
1616, St. Giles Church began to be reared.
1617, St. Giles Church was leaded."

The tower in its fall destroyed much of the nave. The Jacobean tower is a notable piece of construction, and presents a dignified appearance. Over the first pillar to the west of the tower is a bold piece of lettering, the rhymed effort of Dr. Sibthorpe, a celebrated Northamptonshire incumbent, who at that time held the vicarage of St. Giles :—

"Rob. Sibthorpes to God's true feare,
This downfalne church got helpe to reare.
1616, Will. Dawes, mason."

In the middle of last century a complete scheme of restoration was carried out by Mr E. F. Law, on the report of Sir Gilbert Scott, whose brother was at that time curate-in-charge. Twenty years later much money was spent on the chancel and its side chapels.

The remarkable architecture of the round church of St. Sepulchre and the profusion of late enriched Norman of St. Peter's church has always made Northampton a favourite place with architectural students. With this book of Mr. Serjeantson's in our hands it will be found that Northampton possesses a third church well worthy of close attention.

Technical Arithmetic and Geometry. By C. T. MILLIS, M.I.Mech.E. Second Edition, revised. (London: Methuen & Co., Ltd. Pp. 299. 3s. 6d.)

HAVING reviewed the first edition, we need merely point out some of the more important modifications and additions embodied in the present issue. In Chapter II. the greatly increased use of decimal fractions has been suitably recognised. The additional exercises now included should be generally appreciated by both teachers and pupils, and the addenda to the concluding chapter ought also to be found of value. As a text-book combining arithmetic, geometry, and mensuration the treatise occupies a unique position, particularly as the author never steps beyond the boundaries of an elementary course of instruction.

LEGAL COLUMN.

What is Repair?

In our Law Reports last week we reported a case heard at the West London Police Court, in which the District Surveyor contended that notice should have been given under sect. 145 of the London Building Act by contractors who were reroofing a workshop with zinc. The brickwork of the walls and the woodwork under the roof had remained untouched, but the zinc was renewed with the exception of the clips. It was contended that this work came within the exception contained in sect. 209, being "necessary repair not affecting the construction of any external or party wall," and Counsel particularly inquired how could you repair a zinc roof except by renewing it? The Magistrate accepted this view, as the main structure of the roof was untouched, and he dismissed the summons; but he commented on the difficulty of construing the London Building Act.

A case where part of the woodwork had to be renewed will be found reported, the *Builder*, July 7, 1911, where the summons was also dismissed.

Each case has necessarily to be decided on its merits, and there appears to have been no case in which any exhaustive definition of "repair" in such a connexion has been given, but the term has been considered in an endless number of cases, as between landlord and tenant, and it may be suggested that the question to be answered is—Does the operation being carried out in any way alter the nature or character of what is being renewed or repaired?

If the character of a roof, for instance, is altered it is not merely "repair," but something beyond repair; but where new material of the same nature as the old is merely replaced on a structure, which as such also retains its own character, then what is done appears simply to amount to "repair."

Trade Union Law.

Two cases of importance on the liability of trade unions to be sued in respect of their actions have recently come before the Courts. In Vacher & Sons *v.* London Society of Compositors the defendant trade union had published a libel on the plaintiffs. The libellous statements are not set out in the report of the case, but they related to the plaintiffs' trade methods, and the question to be decided was whether sect. 4 of the Trade Disputes Act applied so that the plaintiffs had no right of redress by action in a Court of law.

The decision by the Court of Appeal of this case has done little to elucidate the law on this section. The majority of the Court held that as the libel related to matters affecting trade unions and workmen, and it was published in contemplation or furtherance of a trade dispute, the section applied, and the plaintiffs' action would not lie. Lord Justice Farwell dissented from this judgment, and it is to be hoped that the case will be carried to the House of Lords. The proposition that a union can deliberately publish a libel upon members of the public without in any way being called to account in a Court of law, or being enjoined from repeating it, is one that surely cannot be tolerated in a civilised country. As Lord Justice Farwell observed, no honest trade unionist could be found to say that the publication of lies could be either necessary or expedient in the interests of his union, and the only advantage we can see from such a decision is that it emphasises

in a marked degree the absurdities to which the Trade Disputes Act lends itself.

The decision is important as it raises a question under the Act which requires revision. Sect. 4, sub-sect. 1, which grants immunity to trade unions from being sued for torts in any Court of law, is in general terms, no mention being made in this sub-section of the tort being committed "in contemplation or furtherance of a trade dispute." In this case, although the majority of the Court found that the libel was published in contemplation or furtherance of a trade dispute, it appears that they did not consider this essential to enable the union to claim the benefit of the section. This is an important question, as it enlarges the powers of the unions. There have been two decisions on this point in a Court of First Instance. In Bussey *v.* Amalgamated Society of Railway Servants the Court intimated, where a dispute was in contemplation or in existence, that a libel was within the protection of the section; but in Rickards *v.* Bartam, where the libel was unconnected with a trade dispute, the Court held it had jurisdiction to entertain the action. The Court of Appeal have by inference repealed the latter decision. The above cases will be found noted the *Builder*, December 26, 1908.

The second recent case was decided in the County Palatine of Lancashire. It was brought by three miners, Gaskell and others, against the Lancashire and Cheshire Miners' Federation. The Federation, in order to compel the plaintiffs to join the Federation, gave notice to cease work at the colliery, and in consequence the plaintiffs were discharged. The Federation set up sect. 4 of the Trade Disputes Act, and the Court held that there was a dispute in existence between union and non-union men, and that sect. 4 applied, and the Court had no jurisdiction. Other points were decided in the case, as, for instance, that the existence of rules held illegal in Osborne's case did not deprive the union of the benefit of the section. This was a struggle between union and non-union men, and the non-union men, deprived of their right to work, were held to have no remedy by reason of the Trade Disputes Act. The lesson to be learnt from the recent strikes is that it is essential to the community that men should be free to dispose of their labour as they think fit, and that compulsion should not be brought to bear upon them to compel them to join unions and federations. These federations first terrorise the men into joining them and then combine to enforce their will on Parliament and the public.

LAW REPORTS.

KING'S BENCH DIVISIONAL COURT.
(Before Justices DARLING, PICKFORD, and BANKES.)

Dellar Brothers *v.* Drury.

THIS was the appeal of Messrs. Dellar Brothers, Ltd., builders, from a decision of Mr. Horace Smith, the magistrate sitting at Westminster Police Court, under the London Building Act.

The respondent to the appeal was Mr. Drury, a Surveyor under the Act for the District of Westminster.

From a special case stated for the opinion of the High Court, it appeared that on April 5, 1911, the respondent preferred an information against Messrs. Dellar Brothers under sect. 153 of the London Building Act, alleging that they had failed to comply with a notice served upon them by the respondent under the Act. The information was heard, and the magistrate made an order upon the appellants to comply with the notice and to pay the respondent twenty-five guineas costs.

It appeared, further, that Messrs. Bipsine (1910), Ltd., were the holders of the lease of a piece of land at the rear of their works at Westminster. In February, 1911, negotiations were commenced with the Territorial Forces Association of the County of London for the erection of an iron shed on the land for the purpose of storing the Association's waggons. On March 27, the negotiations having been successfully terminated, Messrs. Dellar Brothers were asked to build the shed according to plans approved by an officer of the Association. It was admitted that the building was not in accordance with the London Building Act.

On March 28 a building notice under the Act was duly served upon the respondent by the appellants, and on March 31 a notice as to the irregularity of the building was served on the appellants by the respondent. As that notice was not complied with a summons was applied for by the respondent. On April 8 the property of the Association was brought to the shed, which was completed shortly afterwards. The shed in question was not a building which could be lawfully erected with the approval of the Act.

On April 20 the matter came before the magistrate. Then sect. 22 of the Act was read as follows:—

"There shall be exempted from so much of the provisions of the Act as relates to buildings and structures—every building, structure, or work vested in the occupation of his Majesty, either beneficially or as part of hereditary revenues; to the Crown to use in trust for the public services; also any building, structure, or work vested in and in the occupation of any department of his Majesty's Government, or to the Metropolitan Police, etc."

It was contended by the appellants that the said exemption clause applied to the said premises, or, in the alternative, the said premises were being erected for the Crown, and that because of the exemption the provisions of the Act could not apply. It was further contended that the premises were vested in and in the possession of the Territorial Association at the date of the hearing of the summons, and there was, therefore, no power in the magistrate to enforce the order.

The respondent contended (1) that the Association was not a department of his Majesty's Government, and (2) that the said premises were not "vested in" the Association within the meaning of the Act. He also contended that in the true construction of the Act the Crown was bound, at any rate, by the provisions relating to buildings and structures, and that the appellants' contentions were erroneous.

The magistrate held that the Association was not a department of the Government, and that in the circumstances the premises were vested in the Association on April 1; but that possession was not taken by them until April 22. Therefore, he made an order upon the appellants, enforcing the notice.

Appearing for the appellants, Mr. S. A. T. Rowlatt said the question was an important one to builders from many points of view. The notice served upon the appellants was in connexion with the irregularity of the building which they had erected, and as they did not comply with it the magistrate made an order that appellants should do so. If they did not, the District Council would have the authority to go in and pull the building down. At any rate, at the time the order was made the building in question, which was constructed of iron and could not possibly be said to comply with the Building Act, which required all buildings to be constructed of bricks, was vested in the Territorial Association, and, therefore, under the Crown. Therefore the question came to this: Was a building used for the purposes of the Crown and the defence of the realm liable to be pulled down summarily because it did not comply with the provisions of the London Building Act?

Mr. Justice Pickford: The first point, then, is whether this building was in the occupation of the Crown?

Mr. Rowlatt: Yes, that is one point, but there is also a question whether it comes within the exemption. Then a question also arises—whether the order was made when the builder was in possession or occupation. Supposing the Crown was having something done to its own buildings, as is happening at the Law Courts at present, the District Surveyor cannot summon the builder who is doing the work for doing anything outside the Act.

Mr. Justice Pickford: Take the new Territorial headquarters at the Duke of York's Schools?

Mr. Rowlatt: Yes. You can't summon a builder for not putting in a proper compliance as demanded by the Act in such a building as that.

Mr. Justice Bankes: Supposing the foundations only are laid, is the Crown in occupation then?

Mr. Rowlatt said he thought they could be. The Crown could employ a builder to come in on land in its occupation to build under the direction of the Crown. Proceeding, Counsel said there was one section which dealt with buildings other than of brick. That section was 82, which, in effect, was where builders were desirous of putting up an iron building which other parts of the Act made impossible, he should make application to the County Council and produce plans. If the Council were satisfied with the plans and particulars, they could give sanction to the erection of the building in writing. Therefore if a builder wished to erect a structure which was out of the ordinary run, he had to go to the Council and obtain a dispensation. In this case the builders went to the Council for that dispensation, and were told that, as the building belonged to the Crown, such sanction was not required. Yet when the District Surveyor came upon the scene he decided that the building had been erected in contravention of the Act, and served the notice upon the appellants.

Mr. Ryde, K.C. (for the respondent), said he hoped his friend would not bring in anything which did not come within the case.

Mr. Rowlatt said he really thought it was a quarrel between two surveyors.

Mr. Justice Bankes: It may be a question of fees.

Mr. Justice Darling: Yes, I have seen plenty of that sort of thing.

Mr. Ryde said he was not disputing that the Territorial Association was acting as a servant of the Crown, and whether it was technically a department or a servant of the Crown seemed to him to be irrelevant. His contention would be that Dellar Brothers were not at the time of the issuing of the summons the servants of the Crown so far as the building was concerned.

Mr. Rowlatt said there was no doubt that if this building came within the exemption as being within the occupation of the Crown, Messrs. Dellar Brothers came also within the exemption. Even at the date of the summons the interests of the Crown were sufficient to prevent a summons being obtained to initiate proceedings, which would in effect result in the pulling down of the building.

Mr. Justice Pickford: Can't you take the lease of property and yet not be in occupation?

Mr. Rowlatt: Oh, yes!

His Lordship: Isn't that the case here? Is it not a fact that the Association took the lease on April 5, and did not take occupation until some weeks afterwards?

Mr. Rowlatt: That may be so; it depends on whether you draw that inference.

His Lordship: The magistrate has drawn that inference, and we are bound by it.

Mr. Justice Darling: Suppose a builder built a private house which did not comply with the London Building Act, and the King went to live in it at the time of the hearing of the summons against the builder. The Crown would be exempt, and therefore the builder would be exempt and could not be ordered to pull the house down?

Mr. Rowlatt: That is so. No such order could be made upon him. If he had committed a minor offence against the Act before the King took possession, which perhaps involved a small fine, he could not, *ex post facto*, be released from that. I say a Crown building cannot be ordered to be pulled down because of a contravention of the London Building Act.

Mr. Justice Bankes: Supposing a builder said:—"This building is exempt, and I shall not pull it down," can any further steps be taken against him?

Mr. Ryde said he thought there was a section dealing with that.

Mr. Justice Bankes: If that is so, it may be that the order in this case was right, although the building cannot now be touched.

Mr. Rowlatt said if Mr. Ryde was right, and further steps could be taken against a builder in respect of a building for the Crown, the result would be amusing, because the penalty for non-compliance of the order was 40s., and 40s. per day until the building was pulled down.

Mr. Justice Darling: If you pull down a Crown building, what are you not liable to?

Mr. Ryde argued that it could not be said that a half-finished building could be vested in the Crown or be in its occupation.

Mr. Justice Darling said the building was now vested in the Crown, and, in reply, Mr. Ryde said his submission was that the liability of the builder under the Act crystallised on April 5, when the summons was applied for, and when the building was vested in the Association.

Counsel added that a suggestion had been made that the District Surveyor was fighting for his fees. That was not the fact. The Surveyor was the one who first told the builders to go to the County Council and apply for sanction to build.

Mr. Justice Darling: And when they came back after being told that they did not want sanction because they were exempted the Surveyor was not satisfied.

Mr. Rowlatt said he would withdraw any remark he had made which would give offence to the Surveyor. He had no doubt the Surveyor was acting under a sense of duty.

Delivering his judgment, Mr. Justice Darling said in this case it was sought by the Surveyor for the District of Westminster, under the Building Act, for the Metropolis, to enforce an order made by the magistrate in regard to a building in the occupation of the Crown, and for the purposes connected with the defence of the country. That building was

put up by the appellants upon a piece of land on which it now stood, and had been found by the magistrate to have become vested in the Territorial Association on April 5, 1911. The magistrate also found that it was in the occupation of the Association a few weeks later. The summons taken out by the Surveyor was for alleged contravention of the Act, and it was taken out on April 5, but it was not heard until July 20, when the magistrate made the order upon appellants to comply with the notice. Compliance with the notice would have meant the carrying out of certain requisitions of the Act, so that the building would become as the Act directed it should be. The appellants, however, did not comply, and that being so, the order of the magistrate meant that if they did not do as the Act told them to the Council could, after having given seven days' notice of their intentions, enter with a sufficient number of workmen and do what was necessary to enforce the requisitions in the notice. But by July 20, when the order was made, there was very little use in it, for the building had become the property of the Crown, and, therefore, an order on the builder that he should comply with the Act was somewhat out of place, for it would mean that the building would have to be demolished and put up again. Such an order could not be enforced with regard to a building in the occupation of the Crown, and therefore he (his Lordship) thought it did not matter when the summons was taken out; what they had to consider was the date the order was made, and he found that on that date there was no power in the magistrate to make an order in respect of the building in question. The appeal would, therefore, be allowed, and the order struck out.

Justices Pickford and Bankes agreed.

COURT OF APPEAL.

(Before Lords Justices FARWELL and KENNEDY.)

Action against a Contractor:
Simpson *v.* Wright.

In this case the defendant, Mr. G. T. Wright, a contractor carrying on business in Leeds, appealed from a decision of Mr. Justice Channell, in Chambers, refusing to stay the action under sect. 4 of the Arbitration Act.

Mr. Tindal Atkinson, K.C., in support of the appeal, said that the plaintiff, Mr. E. O. Simpson, a solicitor, purchased part of an estate near Oberford, which formerly belonged to Sir William Vavasoar, together with a mansion or hall known as Hazlewood Castle. He desired to turn the Castle into a private residence for himself, and he entered into a contract with the defendant, whereby the latter contracted to make certain alterations in the premises, which had not been occupied for a considerable time, and which were in a dilapidated condition. The contract was for a lump sum of 3,950*l*., "subject to all deductions and additions." The architects were Messrs. Sidney D. Kitson and George Frederick Bowman, to whom all disputes arising between the parties were (under the terms of the contract) to be referred. By his statement of claim the plaintiff alleged that, having paid to the defendant in respect of work done on the alterations sums amounting to 3,750*l*., on April 4 the defendant forwarded to him a document which purported to be a final certificate for 451*l*., signed by Mr. Kitson, the amount being subsequently reduced by Mr. Kitson to 441*l*. Plaintiff's case was that the certificate was not issued in accordance with the contract; that in arriving at the amount the terms of the contract were wholly ignored; that the whole of the work had been remeasured and charged for on the basis of a "measure and value" contract; and that no distinction had been made between the work to be paid for by a lump sum and the variations and extras. Plaintiff brought the action, claiming a declaration (1) that the contract dated October 4, 1909, was binding upon the parties; (2) that the liability of the plaintiff to pay the defendant for the work arose under the contract, and not otherwise; (3) that the defendant was not entitled as against the plaintiff to any sum under any certificates of the architects other than certificates issued in accordance with and on the basis of the terms of the contract; and (4) that the plaintiff was entitled to leave to revoke the submission to arbitration under the contract. In these circumstances the defendant took out a summons, asking that the action be stayed and the dispute referred to the arbitration of the architects, as provided for in the contract. His (Counsel's) submission was that the dispute was properly one which ought to be referred. During the course of the work the alterations were found to be so extensive that it was impossible to apply the terms of the contract—that was to say, it was impossible to take a lump sum first and then find what the variations were. Consequently the whole work had to be remeasured, and the plaintiff alleged that the architects in so acting had misconceived their duty. The best persons to judge were the architects who advised the work, and only they could say what the variations and additions were. Because the architects had taken a perfectly honest view of their duty and had already expressed a very decided opinion on the matters in dispute they ought not, he contended, to be precluded from giving an honest decision hereafter as to whether they were right or wrong in the view they formerly took.

Mr. Gore-Browne, K.C., for the respondent, contended that the action ought not in the circumstances to be stayed. Not only did the dispute involve the question of whether the whole of the work should be remeasured, but it raised a further question as to the architects' fees for remeasuring the work.

In the result their Lordships allowed the appeal, and made an order staying the action.

LONDON COUNCILS.

Barking.—Plans have been passed for Mr. C. H. R. Taylor for four houses in Hulse-avenue.

Barnes.—Plans submitted by the Surveyor have been approved for making-up a portion of Madrid-road.

Chelsea.—Plans have been lodged with the London County Council by Mr. E. Warren for the re-erection of Shelley House, Chelsea-embankment.

Croydon.—The tenders of Messrs. James Smith & Sons, Ltd., Junction Works, South Norwood, have been accepted at 1,710*l*. and 2,235*l*. for the erection of a boiler house, chimney, etc., at the Borough hospital, and for carrying out alterations and additions to the boiler house at the Surrey-street Waterworks, respectively. The following plans have been passed:—Mr. C. S. Banks, 16, Oakfield-road, sixteen houses, Kilmartin-avenue, and three houses, etc., in Woodside-avenue; Mr. P. Crowley, Burlington-road, ten houses, Ashburton-avenue; Mr. A. Gosheron, 6, Station-approach, Thornton Heath, twenty-six houses, Winterbourne-road; Mr. C. M. Crickmer, London, W.C., sixteen houses, Pollard's-hill South and Pollard's-hill West.

Greenwich.—The following plans have been passed:—Messrs. A. Bentley & Son, three houses, Ravensbourne-place; Mr. A. M. Torrance, six houses, Kidbrooke-grove; the London Building Estates Development Company, Ltd., four houses, Eastbrook-road.

Hanwell.—For carrying out alterations at the Free Library the tender of Mr. W. J. Dickens, at 650*l*., has been accepted by the Urban District Council.

Hendon.—The Education Committee have accepted the tender of Messrs. Moss & Son, at 16,400*l*., for the erection of the Garden Suburb School.

Heston and Isleworth.—Murray-avenue and part of Hounslow-avenue are to be made-up as new streets. Plans have been passed for Messrs. Walter Jones & Sons for a factory at The Limes, Staines-road, Hounslow, also for Mr. H. R. Peake, for additions to the new Hounslow Hospital, Staines-road, Hounslow.

Holborn.—The tender of the French Asphalte Company, Ltd., has been accepted by the Council for repaving parts of the carriage-ways of Hart-street, Bloomsbury-square, Woburn-place, and Southampton-row, with compressed rock asphalt; also for repairing the existing concrete foundations. The carriageway of a portion of High Holborn is to be paved with fine dressed granite setts grouted with bitumen, upon a new concrete foundation, and tenders are to be invited for the work. For repaving the carriageway of the west side of Woburn-square and making good the existing concrete foundations the tender of the Acme Flooring and Paving Company (1904), Ltd., has been accepted at 11s. per yard super. for patent sectional wood blocks, and 17s. 9d. per yard cube for concrete.

Kingston.—The following tenders have been accepted:—British Trust Corporation, Ltd., recoating Surbiton-road, 297*l*. 10s.; Roadament Company, Ltd, recoating Portsmouth-road, 2,375*l*.; Messrs. W. Griffiths & Co., Ltd., wood-paving portions of five roads, 11,495*l*.; Improved Wood Pavement Company, Ltd., wood-paving three roads, 2,370*l*. 15s. 6d.

Lambeth.—Permission is to be granted Mr. A. H. Williams to drain nine houses proposed to be erected in Rosendale-road. Messrs. Searle & Searle, on behalf of Messrs. Brand & Co., Ltd., have lodged plans with the London County Council for the erection of a factory on the site of Nos. 1, 3, and 5, Miles-street, South Lambeth.

Leyton.—It has been decided to asphalt portions of seven roads, amounting, approximately in all to 12,760 yds. super. A plan has been passed for Mr. E. F. Selby for eleven houses in Forest-road.

Poplar.—During the quarter to end June 30 next Stebondale-street and parts of Brick-field-road and Lochnagar-street are to be paved at an estimated cost of 2,625*l*. During the same period repairs are to be carried out to ten macadam roads at an estimated cost of 559*l*. The sewer in Wade-street is to be reconstructed in 12-in. pipes at an estimated cost of 360*l*.

Southgate.—The second section of Chimes-avenue is to be made up. The following plans have been passed:—Messrs. Edmondsons, Ltd., ten houses, Queen's-avenue, Winchmore Hill; Mr. A. Ingram, pavilion, Brownlow-road, Bowes Park; Mr. H. C. Keene, three houses, Orpington-road, Winchmore Hill; Mr. G. W. S. Ingram, eleven houses, Belmont-avenue, Palmer's Green; Messrs. Christie & Co., Ltd., re-erection of Orange Tree public-house, Highfield-road, Winchmore Hill; Mr. W. Binfield, additions and alterations to Cock Inn, Green Lanes, Palmer's Green.

Stepney.—The sewer between Nos. 130 and 170, Devonshire-street, is to be reconstructed with 9-in. and 12-in. glazed ware pipes at an estimated cost of 240*l*. Plans have been lodged with the London County Council by Messrs. Joseph & Smithem for the erection of a club, drill hall, etc., on the west side of Half-Moon-passage, Great Alie-street.

Watford.—The following plans have been passed:—Messrs. J. Rodwell & Son, rebuilding four houses, Chapman's-yard, High-street; Messrs. J. Andrews & Sons, five houses, King-street; Watford Manufacturing Company, additions to Vi-Cocoa Works.

West Ham.—Plans have been passed for Mr. M. W. Hudson for the erection of a waggon factory, etc., showroom, and offices at Albert Works, Albert-road, Stratford. Mr. A. Foster has lodged plans for carrying out extensions to the cinematograph hall at the corner of Beckton-road and New Barn-street, Canning Town.

Willesden.—The Engineer has been directed to prepare plans and estimates of the cost of making-up part of Wotton-road.

TRADE CATALOGUES.

Messrs. Anselm, Odling, & Sons, Ltd., of 132, New North-road, London, and Exchange Wharf, Liverpool, send us a coloured leaflet illustrating the wide variety of marbles imported by them. Among work executed by the firm are the marble columns, steps, and flooring at the Oratory, Birmingham; the marble staircase and wall lining at the New Sessions House, Old Bailey; and granite front for the Union of London and Smiths Bank, Ltd.

Messrs. E. H. Shorland & Brother, Ltd., warming and ventilating engineers, Manchester, have just published a new catalogue, No. 30, of their warm-air ventilating patent Manchester grates, patent Manchester stoves with open fires, patent exhaust roof and special inlet ventilators. The catalogue is divided into three sections, on white, red, and blue paper, so as to facilitate easy reference, a few words of introduction being given at the commencement of each of the three sections. The first series of Manchester grates illustrated are those with the latest patent low-fire projecting back. These grates having no bars to interfere with the radiating properties of the fire better results are attained with this form of grate. The next series of Manchester grates illustrated are those which have bars fitted with the improved projecting back. With regard to the patent exhaust roof and inlet ventilators which are printed in the red section of the catalogue, the ventilators are made by special machinery. The patent Manchester stoves in the last section of the catalogue are now fitted with the latest patent warm-air mixing chamber, which increases the heating capacity of the stove without any additional consumption of fuel. These patent Manchester stoves are made either single or double-fronted, and with ascending or descending smoke flues, thus allowing the stove to be fixed in the most desirable position. The Manchester stoves are supplied in a variety of designs and finishes, but the internal construction is the same, irrespective of the design and finish selected. When the Manchester stoves are fixed with ascending smoke flues the smoke flues are encased in either glazed faience, or with iron outer casing with outlet in this outer ventilating casing near the ceiling level for the extraction of the vitiated air, thus forming a combined warming and extract ventilating system.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, —; Contracts, iv. vi. viii. x.; Public Appointment, xvi.; Auction Sales, xxii.
Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.
The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Competitions.

APRIL 13.—**Birmingham.**—BATHS.—Twenty and 10 guineas for second and third designs. Applications for conditions to be sent to the Superintendent Engineer, Kent-street, Birmingham.

APRIL 13. — **Ormskirk.** — CLUB-HOUSE.—Competitive plans are invited for proposed club-house for Ormskirk Golf Club. See advertisement in issue of March 1 for further particulars.

APRIL 20.—**Birmingham.**—BLUE COAT SCHOOL.—Limited to local architects. Assessors, Mr. G. H. Hunt, F.R.I.B.A., and Mr. C. E. Bateman, F.R.I.B.A. Particulars from the Secretary, the Blue Coat School, Birmingham.

MAY 1.—**Rhos Ruabon.**—PAIR OF WORKMEN'S COTTAGES.—Premiums of 10*l.* and 5*l.* Assessor, Mr. Raymond Unwin, F.R.I.B.A. Particulars from Mr. G. Meirion Griffiths, Rhos Ruabon.

MAY 1. — **Wombwell.**—SWIMMING BATHS.—The Wombwell U.D.C. invite designs in competition for public swimming baths, to be erected in Hough-lane, Wombwell, Yorkshire. Three prizes of the value of 40*l.*, 30*l.*, and 20*l.* respectively are offered for the designs placed first, second and third respectively by the assessor. See advertisement in issue of February 16 for further particulars.

MAY 11.—**Hastings.**—SUNK ARENA AND BAND-STAND.—Cost not to exceed 4,500*l.* Premiums, 15 and 10 guineas. Particulars from the Town Clerk, Hastings.

MAY 15.—**Portland.**—COUNCIL OFFICES.—The Portland U.D.C. invite competitive designs and plans for Council Offices. See advertisement in issue of March 8 for further particulars.

MAY 22.—**Southend-on-Sea.**—HAMSTEL COUNCIL SCHOOL.—Architects practising in the borough only. Premiums, 25*l.*, 15*l.*, and 10*l.* Particulars from the Education Office, Municipal Buildings, Southend-on-Sea.

JUNE 1.—**Dunfermline.**—INSTITUTE AT NETHERTOWN.—Cost not to exceed 7,000*l.* Premiums of 20*l.*, 15*l.*, and 10*l.* Assessor, Mr. E. A. Jamieson. Particulars from the Secretary, Carnegie Trust, Abbot-street, Dunfermline.

JUNE 28. — **Hale, Cheshire.**—TOWN PLANNING SCHEME.—Premiums 50*l.* and 25*l.* Particulars from the Council Offices, Hale.

JUNE 30.—**Padiham.**—TOWN HALL, BATHS, ETC.—Premiums 40*l.* and 20*l.* Particulars from Mr. J. Gregson, A.M.Inst.C.E., Surveyor's Office, Padiham.

JULY 1. — **Dusseldorf.** — A plan for the extension of the City of Dusseldorf. Premiums of 1,000*l.* to 375*l.* Conditions on application to the Chief Burgomaster, Dusseldorf. A translation appeared on page 365, September 29.

JULY 1.—**Port of London.**—NEW OFFICES.—Limited to those mentioned in "Competition News" (p. 424).

AUGUST 30. — SAXON SNELL PRIZE. — Fifty guineas; with medal, is offered for essay on a hospital subject. Particulars from the Sanitary Institute, 90, Buckingham Palace-road, S.W.

NO DATE. — **Cardiff.** — FOOTBALL STANDS.—Premiums 30*l.*, 20*l.*, and 10*l.* Particulars from Mr. C. S. Arthur, 53, Queen-street, Cardiff.

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in Competition News, December 1, page 635.

NO DATE. — **Sheffield.** — CRIPPLES' HOME. — Limited to local architects. Mr. E. M. Gibbs, F.R.I.B.A., and Mr. F. E. P. Edwards, F.R.I.B.A., assessors.

NO DATE. — **Warrington.** — SCHOOL. — The Warrington Education Committee invite competitive plans for the erection of a public elementary school. See advertisement in issue of February 16 for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

APRIL 12.—**Rowley Hill.**—SCHOOL.—For erection of new Sunday-school. Plans seen, and quantities from Mr. J. Berry, architect and surveyor, 3, Market-place, Huddersfield.

APRIL 12.—**Thurnscoe.**—HOUSES.—Erection of eighty houses, in blocks of ten. Plans and particulars seen, and quantities from Mr. W. T. Turner, architect, Market-hill, Barnsley.

APRIL 13. — **Bothwell.** — EXTENSION.—For proposed extension to Cemetery, near Fallside Station. Specification, quantities, and tender, on deposit of 1*l.*, fom M. George Park, C. and M.E., 58, Bath-street, Glasgow.

APRIL 13.—**Nantybwch.**—HOUSES.—Erection of eight dwelling-houses at Nantybwch. Plans and specification at the Full Moon Inn, Scwrfa, Tredegar. Deposit of 1*l.* 1s. Mr. Ivor Davies, architect, Charles-street, Tredegar.

APRIL 13.—**Widnes.**—SCHOOL.—For erection of a riding-school. Plans and specifications, with quantities, with the architect, Mr. J. P. Fraser, 14, Elliot-street, Liverpool.

APRIL 14.—**Derryheen.**—RECTORY.—Erection of a new rectory at Derryheen, County Cavan. Drawings and specifications with Messrs. Blackwood & Jury, architects, 41, Donegall-place, Belfast.

APRIL 15.—**Basford.**—SCHOOL.—Erection of a school, Scotland-place, Basford. Plans seen, and specification, quantities, and form of tender from Mr. Frank B. Lewis, City Architect, Guildhall, on deposit of 2*l.* 2s.

APRIL 15. — **Carn Brea.** — PREMISES.—For rebuilding premises. Plans and specification with Mr. S. Hill, architect, Green-lane, Redruth.

APRIL 15. — **Fetterletter.** — HOUSE.—For additions to dwelling-house at Fetterletter. Plans and specifications with the tenants.

APRIL 15.—**Golcar.**—BUNGALOW.—Erection of a bungalow, Rob Royd, Wellhouse, Golcar. Plans seen, and quantities from Messrs. Lunn & Kaye, architects and surveyors, Huddersfield.

* APRIL 15.—**Southend-on-Sea.**—SCHOOL.—The Essex Education Committee (Rochford Hundred Higher Education Sub-Committee) invite tenders for erection of a new secondary school at Southend-on-Sea. See advertisement in this issue for further particulars

APRIL 16. — **Abersychan.** — DWELLINGS.—Erection of workmen's dwellings and other works as follows:—Fifty dwellings at Garndiffaith; fifty dwellings at Abersychan; thirty-six dwellings at Pontnewynydd; construction of streets, etc., at Garndiffaith; construction of streets, etc., at Pontnewynydd; construction of streets, etc., at Abersychan. Plans and specifications with Mr. Edward Whitwell, Council Offices, Abersychan. Deposit of 1*l.* 1s.

APRIL 16.—**Barking.**—COTTAGES.—Erection of a block of six cottages as a temporary administrative block of the Upney Isolation Hospital. Plans, specifications, and conditions of contract seen, and form of tender from Mr. C. J. Dawson, F.R.I.B.A., architect, 16, Cambridge-road, Barking.

APRIL 16.—**Cork.**—ADDITIONS, ETC.—For additions and alterations to residence, Cregg Olympry, Fermoy, Co. Cork. Drawings and specifications with Mr. W. F. Maye, C.E., architect.

APRIL 16. — **Duns.** — ALTERATIONS.—For alterations on retort-house and purifiers, and erection of a new retort-bench, erection of a new exhauster, scrubber, etc. Drawings and specifications from Mr. J. Herriot, Secretary, Duns Gaslight Supply Company, Duns, Scotland, on deposit of 1*l.* 1s.

APRIL 17. — **Llangefni.** — SCHOOL.—For additions, alterations, and repairs to the Council school. Plans and specifications with Mr. Jos. Owen, F.R.I.B.A., County Architect, Menai Bridge.

APRIL 17.—**New Hey.**—WAREHOUSE.—Construction of a cotton warehouse at New Hey. Plans seen, and quantities and specification with the Engineer, Lancashire and Yorkshire Railway, Hunts Bank, Manchester.

APRIL 17.—**Yardley.**—COTTAGES.—The Birmingham Tame and Rea District Drainage Board invite tenders for the erection of three cottages at their Cole Hall works, Yardley. Quantities and form of tender from Mr. John D. Watson, M.Inst.C.E., Engineer to the Board, Engineer's Office, Tyburn, Birmingham.

APRIL 19.—**Barming Heath.**—ADDITIONS, ETC.—For alterations and additions at the Kent County Lunatic Asylum, Barming Heath, near Maidstone. Drawings and specifications at the Asylum, Barming Heath. Quantities on deposit of 2*l.* 2s

APRIL 20. — **Pontllanfraith.** — SCHOOL, ETC. — Erection of a new Council school, with a manual training room, at Pontllanfraith, Mon. Plans and specification seen, and quantities from Mr. John Bain, F.R.I.B.A., County Council Offices, Newport. Deposit of 2*l.* 2s.

APRIL 22. — **Tonypandy.** — PREMISES.—For rebuilding business premises, Dunraven-street. Plans and specification seen, and quantities, on deposit of 1*l.* 1s., from Messrs. Gibson, Parry Williams, & Co., architects and surveyors, Capital and Counties Bank-chambers, Pontypridd

APRIL 23.—**Worthing.**—CELLS, ETC.—For additional cells and other works in connexion with refuse destructor. Form of tender, plan, and other particulars from the Borough Surveyor, Municipal Offices, Worthing.

APRIL 24. — **Bootle.** — BUILDINGS. — Erection of steel-frame and brick buildings for a new electric light station. Quantities and particulars from the Borough Engineer's Office. Deposit of 1*l.* 1s.

APRIL 24.—**Bootle.**—SHAFT.—Erection of a brick chimney-shaft at new electric light station. Quantities and particulars from the Borough Engineer. Deposit of 1*l.* 1s

* APRIL 24.—**Dartford, Kent.**—REBUILDING CHIMNEY STACKS.—The Metropolitan Asylums Board invite tenders for taking down a rebuilding chimney stacks at Darenth Asylum, near Dartford, Kent. See advertisement in this issue for further particulars

* APRIL 24.—**London, S.W.**—WOOD FLOORING.—The Guardians of the St. George's Union invite tenders for supplying and fixing wood flooring at Union Infirmary, Fulham-road, S.W. See advertisement in this issue for further particulars.

APRIL 24.—**Sheerness.**—ANNEXE.—Erection of an annexe, with ladies' and gentlemen's cloak rooms, etc. Plans and specifications at the Masonic Hall.

* APRIL 26.—**Southgate.**—WORKMEN'S DWELLINGS.—The Southgate U.D.C. invite tenders for workmen's dwellings. See advertisement in this issue for further paticulars.

APRIL 29. — **Beccles.** — SCHOOL.—Erection of a new public elementary school in St. Benedict's road. Quantities and form of tender from Mr. J. Webb, the Committee's Surveyor, Education Office, County Hall, Ipswich. Deposit of 1*l.* 1s.

APRIL 29.—**Ipswich, etc.**—SCHOOL, ETC.—Erection of new public elementary school at Otley near Ipswich; a new classroom at Kettleburgh Council School, near Framlingham. Plans, specifications, and forms of tender with Mr. J. Webb, the Committee's Surveyor, Education Office, County Hall, Ipswich. Deposit of 1*l.* 1s.

* APRIL 30.—**Eltham.**—HOSTELS AND KITCHEN BLOCK, ETC.—The London C.C. invite tenders for erection of hostels and kitchen block, the adaptation of Southwood House as a permanent hostel, etc. See advertisement in this issue for further particulars.

* APRIL 30. — **Thetford.** — WORKMEN'S DWELLINGS, ETC.—The Thetford U.D.C. invite tenders for erection of fifty workmen's dwellings, etc. See advertisement in this issue for further particulars.

* MAY 2 — **Wandsworth.** — CHIMNEY-SHAFT.—The Wandsworth Guardians invite tenders for repairs to the chimney-shaft at the Workhouse. See advertisement in this issue for further particulars

* MAY 4.—**Denbighshire.**—DRILL-HALL, ETC.—The Denbighshire Territorial Force Association invite tenders for drill-hall, etc., at Chirk. See advertisement in this issue for further particulars.

* MAY 6.—**Farnborough.**—WORKHOUSE ALTERATIONS AND ADDITIONS.—The Bromley (Kent) Guardians invite tenders for certain alterations and additions to the Workhouse at Farnborough. See advertisement in this issue for further particulars.

NO DATE.—**Ansley.**—AISLE.—For erection of a north aisle to St. Laurence's Church, Ansley, near Nuneaton. Messrs. R. Scrivener & Sons, architects, etc., Hanley, Stoke-on-Trent.

NO DATE.—**Belfast.**—VILLA.—For erection of a villa at Hampton Park. Plan and specification with Messrs. J. Fraser & Son, civil engineers and architects, 117, Victoria-street, Belfast.

NO DATE.—**Chase Town.**—INSTITUTE.—Erection of a county mining institute at Chase Town (near Walsall). Mr. Graham Balfour, Director of Education, County Education Offices, Stafford. Deposit of 1*l.* 1s. for quantities

NO DATE. — **Eckington.**—MORTUARY.—Erection of a mortuary. Plans, specification, and quantities with Mr. W. Cecil Jackson, M.S.A., architect and surveyor, 29, Knifesmith-gate, Chesterfield.

NO DATE.—**Ferryhill.**—EXTENSIONS.—For extensions to the Ferryhill and District Workmen's Club and Institute, Ltd. Mr. J. G. Burrell, Lic.R.I.B.A., Market-place-chambers, Durham. 1*l.* 1s. deposit for quantities.

NO DATE.—**Folkestone.**—HOUSE, ETC.—Erection of house, lodge, and stables, etc., on the Acrise Estate, near Folkestone. Quantities from the architect, Mr. Henry F. Mence, St. Peter's-street, St. Albans. Deposit of 2*l.* 2s.

NO DATE. — **Leeds.** — EXTENSIONS.—For extensions to factory for Messrs. Holgates, Ltd. Mr. W. S. Braithwaite, architect, 6, South-parade, Leeds.

NO DATE.—**Lower Walmer.**—PICTURE-HALL.—Erection of a new picture-hall at Lower Walmer. Plans and specification with Mr. C. L. Crowther, architect, Queen-street, Deal. Deposit of 1*l.* 1s. for quantities.

NO DATE. — **Pontefract.** — HOUSES. — For the erection of 102 houses. Plans and specification

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

from Mr. W. J. Tennant, architect and surveyor, Pontefract.

NO DATE.—**Port Talbot.**—THEATRE, ETC.—Erection of a new theatre, shops, offices, and exchange. Specifications and plans seen, and quantities, on 2*l.* 2s. deposit, from Mr. W Ben Jones, architect and surveyor, 41, Wind-street, Swansea.

NO DATE.—**Salesbury.**—ADDITIONS.—For additions to Salesbury (C.E.) School. Messrs. Stones, Stones, & Atkinson, architects, 10, Richmond-terrace, Blackburn.

NO DATE. — **Salisbury.** — ALTERATIONS. — For alterations and additions to 17 and 19, Catherine-street, Salisbury. Mr. F Bath, F.R.I.B.A., F.S.I., architect and surveyor, Salisbury.

NO DATE. — **Salterhebble.**—CHAPEL.—Erection of a Wesleyan school-chapel. Mr. W. W. Longbottom, Lic R.I.B.A., architect, George-street, Halifax.

NO DATE.—**Snaith.**—VILLAS.—For erection of new villas. Architect, Mr. T. H. Johnson, 20, Priory-place, Doncaster.

NO DATE. — **Thongsbridge.** — COTTAGE.—For erection of a detached cottage at Thongsbridge, near Huddersfield. Messrs. J. B. Abbey & Son, architects and surveyors, 34A, New-street, Huddersfield.

ENGINEERING, IRON, AND STEEL.

APRIL 15.—**Accrington.**—PLANT.—For erection of a system of coal elevating and conveying plant. Mr. C. Harrison, General Manager, St. James's-street, Accrington.

APRIL 18.—**Ipswich.**—BRIDGE.—For the widening of the brick bridge, known as the Seven Arches Bridge, London-road. Quantities and drawings from Mr. E. Buckham, Borough Surveyor, Town Hall, Ipswich.

APRIL 23.—**Aberdeen.**—HEATING.—For alterations on the heating of the Aberdeen poorhouse hospitals. Specifications and quantities from Mr. Mackinnon, architect, 245, Union-street.

APRIL 27.—**Derby.**—BOILER.—For the construction of a new Cornish boiler for Union Workhouse. Mr. N. Twigge, Clerk, Poor-Law Offices, Becket-street, Derby.

FURNITURE, PAINTING, MATERIALS, etc.

APRIL 12.—**London.**—PAINTING, ETC.—The West London Extension Railway invite tenders for the cleaning and repainting station buildings, bridges, etc. Specification seen, and forms of tender and quantities from the Engineer, at Paddington (G.W.Rly.) Station

APRIL 15. — **Abergavenny.** — PAINTING. — For painting at the old and new cemeteries. Specification from Mr. W. Llewellin, Clerk to Joint Burials Committee, Town Hall, Abergavenny.

APRIL 15. — **Chester.** — PAINTING.—For outside painting at the Upton Asylum, Chester. Specifications from Mr. H. Beswick, F.R.I.B.A., County Architect, Newgate-street, Chester.

APRIL 15.—**Hastings.**—PAINTING.—For painting fourteen covered seats on the sea front. Specification and form of tender from the Borough Engineer, Mr. P. H. Palmer, M.Inst.C.E., Town Hall, Hastings.

APRIL 15.—**Saffron Walden.**—BATH, ETC.—For supplying and fixing nineteen new water-closets and one new bath, and sundry plumbers' and builders' work, at the Workhouse. Plan and specification at the Workhouse.

APRIL 18.—**London.**—PAINTING.—For painting, whitewashing, etc., at Infirmary, Highgate-hill, N. Specification and conditions of contract from Mr. Edmund J. Harrison, of 9, Gray's Inn-square, W.C. Deposit 2*l.*

APRIL 18.—**Plymouth.**—PAINTING.—For painting at Victoria Park. Specifications seen, and forms of tender from Mr. J. Paton, Borough Engineer and Surveyor.

* APRIL 20. — **Finsbury Park.** — BOWLING-GREENS, ETC.—Tenders are invited for laying-out grounds and forming bowling-greens, tennis-courts, and croquet-lawns. See advertisement in this issue for further particulars.

* APRIL 22.—**London.**—PAINTING, COLOURING, AND OTHER WORKS.—The Guardians of the Poor of the Parish of St. Marylebone invite tenders for painting, colouring, cleansing, repairs, and alterations at their Infirmary, Rackham-street, Notting Hill, W. See advertisement in this issue for further particulars.

* APRIL 22.—**London, N.W.**—PAINTING, ETC.—The Managers of the Central London Sick Asylum District invite tenders for painting and sundry other works in Medical Superintendent's house at Asylum in Colindale-avenue, Hendon, N.W. See advertisement in this issue for further particulars.

* APRIL 23.—**Bromley, E.**—PAINTING.—The Managers of the Poplar and Stepney Sick Asylum District invite tenders for external painting of whole of the buildings at Asylum, Devons-road. See advertisement in this issue for further particulars.

* APRIL 24.—**Margate.**—CLEANING AND PAINTING.—The Metropolitan Asylums Board invite tenders for cleaning and painting works at East Cliff House, Cliftonville, Margate. See advertisement in this issue for further particulars.

* APRIL 24.—**Tooting, S.W.**—PAINTING, ETC.—The Metropolitan Asylums Board invite tenders for cleaning and painting works and repairs at Tooting Bec Asylum, S.W. See advertisement in this issue for further particulars.

* APRIL 29.—**Ramsgate.**—PAINTING.—The Kent Education Committee invite tenders for painting and redecorations at secondary school. See advertisement in this issue for further particulars.

* MAY 1.—**Hampstead.**—PAINTING.—The Guardians of St. John, Hampstead, invite tenders for cleaning and painting work to interior of Workhouse premises at New End. See advertisement in this issue for further particulars.

* NO DATE — **Croydon.** — CONCRETE FOUNDATIONS, ETC.—Tenders are invited for labour and materials for concrete foundations and about 800 yds of new or old grabite pitching paving. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

APRIL 15.—**Ashford.**—MATERIALS.—For supply of materials. Particulars and forms of tender from Mr. A. Sims, Surveyor, 3, Queen-street, Ashford.

APRIL 15.—**Matlock.**—SEWAGE.—For the construction of main outfall and subsidiary sewers. Plans and specifications seen, and quantities and form of tender from the engineers, Messrs. James Diggle & Son, 14, Victoria-street, Westminster, S.W. Deposit of 5*l.*

APRIL 15. — **Port-Glasgow.** — STREETS. — For causewaying John Wood-street and the eastern portion of King-street. Specifications from Mr. James Murray, Burgh Surveyor, Anderson-street.

APRIL 15.—**Saffron Walden.**—DRAINAGE, ETC.—For laying in a new system of soil drainage and building manholes, etc., at the Workhouse. Plan and specification at the Workhouse.

APRIL 15. — **Swansea.** — DRAIN.—For construction of a surface drain at Parkhill-road, Trebooth. Plans, specifications, and conditions of contract with the Engineer, Mr. T. T. Williams, Alexandra-road, Swansea.

MAY 15.—**Teddington.**—SEWAGE.—For construction of buildings, chimney-shaft, roadways, sewers, tanks, filters, and other works. Drawings and specification with Mr. Marshall Hainsworth, Surveyor to the Council, Public Offices, Teddington, and Mr. William Fairley, M.Inst.C.E., Parliament-mansions, Victoria-street, Westminster. Quantities and form of tender on deposit of 5*l.* 5s.

APRIL 16.—**Dundee.**—ROAD.—For reconstructing 5 miles of the Dundee-Coupar Angus road. Specifications from Mr. J. B. Robertson, Road Surveyor, Downfield, on deposit of 2*l.*

APRIL 17.—**Carshalton.**—ROADS.—For making-up Avenue-road and approach roads. Plans and specification with Surveyor, Mr. W. W. Gale, A.M.Inst.C.E. Quantities on deposit of 1*l.*

APRIL 17.—**Mayfield.**—WATERWORKS.—Erection and construction of a pumping-station and reservoir. Plans with Mr. Luther Adams, Surveyor to the Council, Stanton, near Ashbourne. Specification and quantities on deposit of 2*l.* 2s.

APRIL 18.—**Mansfield.**—SEWAGE.—For the laying and jointing of stoneware pipe sewers and granite concrete tube sewers in tunnel. Drawings, specification, and conditions seen, and quantities and form of tender from Mr. Thos. F. Collinge, A.M.Inst.C.E., Borough Engineer and Surveyor, Exchange-row, on deposit of 3*l.* 3s.

APRIL 18.—**Stockport.**—SEWAGE.—For sewering Islington-road. The plan, specification, and general conditions seen, and form of tender from Mr. John Atkinson, A.M.Inst.C.E., Borough Surveyor, Town Hall, Stockport.

APRIL 20. — **Bacup.** — SEWAGE. — For work of sewerage in Luke-street district, Stacksteads. Plans seen, and specifications, quantities, and form of tender from Mr. W. H. Elce, A.M.Inst.C.E., Borough Engineer, on deposit of 1*l.* 1s.

APRIL 22.—**Hale.**—ROAD.—For the making-up of Nursery-avenue. Plans and specifications seen, and quantities and forms of tender, on deposit of 1*l.* 1s., from the Council's Surveyor, Mr. T. Blagburn, Council Offices, Ashley-road, Hale, Cheshire.

APRIL 22. — **Ilford.** — ROAD. — For making-up Sunnyside-road. Plans and specification seen, and quantities and form of tender from Mr. H. Shaw, M.Inst.C.E., Engineer and Surveyor to the Council, on deposit of 2*l.* 2s.

APRIL 22.—**Walsall.**—SETTS.—Supply of granite setts. Particulars and forms of tender from the Borough Surveyor, Council House, Walsall.

APRIL 23.—**Porthcawl.**—STREETS.—Construction of one, two, or three new streets off South-road, Porthcawl. Drawings, etc., seen, and quantities, on deposit of 2*l.* 2s., from Mr. Fred J. Veall, architect, 6, Arcade-chambers, High-street, Cardiff.

APRIL 24. — **Edenbridge.**—SEWAGE.—Construction of stoneware pipe sewers, with manholes, etc. Drawings and specifications seen, and form of tender from the Surveyor, Mr. John N. Prior, Wood Grange, Marlpitt Hill, Edenbridge. Deposit of 1*l.* 1s.

APRIL 24.—**Hungerford.**—DRAINAGE.—For constructing a new drainage scheme at the Workhouse. Plans and specifications with Mr. W. Stephenson Raine, M.Inst.C.E., Engineer, Hungerford.

* APRIL 24.—**London, N.**—REPAIRS TO ROADS, ETC.—The Metropolitan Asylums Board invite tenders for repairs to roads and tar-paving at Northern Convalescent Fever Hospital, Winchmore Hill, N. See advertisement in this issue for further particulars.

* APRIL 24.—**London, S.W.**—ROAD, ETC., REPAIRS.—The Metropolitan Asylums Board invite tenders for road and paving repairs, etc., at South-Western Fever Hospital, London-road, Stockwell, S.W. See advertisement in this issue for further particulars.

* APRIL 24.—**Sevenoaks.**—SEWERAGE WORKS.—The Sevenoaks R.D.C. invite tenders for the Edenbridge sewerage works, consisting of about 1,288 yds. of 9-in. stoneware pipe sewers, with manholes, etc. See advertisement in this issue for further particulars.

APRIL 26.—**Brighton.**—PAVING, ETC.—For laying of wood paving and lithofalt blocks. Specification and form of tender from the Borough Surveyor, Town Hall, Brighton.

APRIL 29.—**Hastings.**—SEWER.—For laying of 9-in. pipe sewer, and other work at Winchelsea-road, Ore, Hastings. Drawing and specification seen, and form of tender from the Borough Engineer, Mr. P. H. Palmer, M.Inst.C.E., Town Hall, Hastings.

* APRIL 30.—**Thetford.**—ROADS, SEWERS, ETC.—The Thetford U.D.C. invite tenders for new roads and sewers, etc. See advertisement in this issue for further particulars.

MAY 6.—**Horsham.**—ROAD.—For the making-up of Victoria-road, Albany-road, and Princess-road, Crawley. Specification, quantities, and form of tender from Mr. W. Dengate, 58, Park-street, Horsham, the Surveyor to the Council. Deposit of 1*l.*

Public Appointment.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*VALUER AND SURVEYOR (IRELAND)	Civil Service Commission	Not stated	April 18

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*WALLPAPER, COLOUR, ETC., MERCHANT'S STK.—At 21, Hartfield-rd., Wimbledon, S.W.	H. W. Smith	April 16
*BUILDING MATERIALS, LEWISHAM—On the Premises	Hatch & Hatch	April 17
*FREEHOLD FACTORY PROPERTY, GREENFORD—At the Mart	S. Walker & Son	April 18
*SHOP FRONT—At 62A, Aldersgate-street, E.C.	Frank G. Bowen	April 18
*FREEHOLD BUILDING SITES, KINGSLAND-RD., N.E., AND CROYDON—At the Mart	Furbers	April 22
*DEALS, BATTENS, BOARDS, TIMBER, ETC.—Great Hall, Winchester House, E.C.	Churchill & Sim	April 24
*FREEHOLD ESTATE, DULWICH, S.E.—At the Mart	Douglas Young & Co.	April 24
*FREEHOLD BUILDING LAND, MAIDSTONE, KENT—At the Mart	Douglas Young & Co.	April 24
*FREEHOLD ESTATE, HOCKLEY, ESSEX—At the Mart	Douglas Young & Co.	April 24
*FREEHOLD BUILDING ESTATE, SOUTHALL—At the Mart	Ferris & Puckridge	April 25
*FREEHOLD ESTATE, HIGHBURY, N.—At the Mart	Joseph Stower	May 9
*FREEHOLD SITE, SHOPS, AND HOUSES, NOTTING-HILL—At the Mart	Joseph Stower	May 9
*BUILDING SITE, HAMPSTEAD HEATH—At the Mart	Joseph Stower	May 9
*FREEHOLD ESTATE, UPPER NORWOOD—At the Mart	Trollopes	May 15

PATENTS.

APPLICATIONS PUBLISHED.*

5,770 of 1911.—Chubb & Son's Lock and Safe Company, Ltd., and Charles Edward Pierce: Shelving and partitions and fittings connected therewith.

6,146 of 1911.—Albert Flint: Double-action butt-hinge for casement windows.

6,250 of 1911.—Otto Arndt: Scaffolding for use in making and finishing ceilings.

6,354 of 1911.—Frederick Thomas Hopkinson: Means and apparatus employed for loading and transporting excavated material.

6,500 of 1911.—John Murray Leighton: Construction of concrete piles.

6,998 of 1911.—William Henry Baraclough: Machinery for the manufacture of wood-paving and floor blocks.

10,139 of 1911.—Thomas Glover: Construction of back for gas fires and the like.

10,218 of 1911.—Arthur John Hollick: Erection of reinforced or other concrete structures.

10,403 of 1911.—Arthur John Hollick: Erection of reinforced or other concrete structures.

12,264 of 1911.—Albert Edward Horsman: Domestic firegrates.

18,786 of 1911.—William Hasler: Door latch.

19,817 of 1911.—Thomas Henry Cosgrove: Stagings or platforms for use outside buildings by window-cleaners, painters, and other workmen.

20,591 of 1911.—Samuel Charles Beresford: Sliding window-sashes.

21,008 of 1911.—J. & C. G. Bolinders Mekaniska Verkstads Aktiebolag: Machines for joining and cutting up matched boards into sections of different size.

22,278 of 1911.—Société Anonima Italiani Gio. Ansaldo, Armstrong, & Co.: Case-hardening processes for articles of iron, steel, and steel alloys.

27,115 of 1911.—Charles Arthur Allison (Excello Products Company): Clearing and flushing devices for waste pipes.

27,446 of 1911.—Arthur Henry Mountain: Pipes for sewers, drains, and the like, and the method of and means for jointing the same.

29,173 of 1911.—Abraham Ashworth: Draught and dust excluders for doors.

1,842 of 1912.—David Edward Kennedy: Construction of floors.

1,844 of 1912.—David Edward Kennedy: Construction of floors.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

March 6.—By J. KITTOW & SON.

Callington, Cornwall.—Agricultural Estate, 955 acres, f.	£27,931

March 14.—By CARR & STEPHENSON.

Gunby, Yorks.—Gunby Hall Farm, 395 a. 3 r. 14 p., f.	13,290

By ELLIOTT & SONS.

Brighton.—35, 37, and 39, Hendon-st., f., w.r. 39l.	235
25, 26, 27, 32, and 33, Gardner-st. (s.), f., y.r. 240l.	2,900
22 and 24, North-rd. (s.), f., y.r. 85l.	950
2, Clermont-rd., f., y.r. 36l.	620
2, East-st., c., p.	800

March 19.—WALLER & KING.

Southampton, Hants.—5, 13, 15, and 17, Belmont-rd.; 14 and 16, Westridge-rd., f.	2,420
19 to 24, Orchard-pl., f., w.r. 133l. 16s.	1,250

March 20.—By HENRY DUKE & SON.

Powerstock, Dorset.—Farms, small holdings, etc., 990 acres, f.	23,007

March 22.—By LEWIS & SPAIN.

Wood Green.—33 and 35, Truro-rd., f., w. and e.r. 67l. 12s.	510
Pimlico.—43, Cumberland-st., f.g.r. 8l., reversion in 21 yrs.	380

By P. W. TALBOT & CO.

Hampstead.—61, Heath-st. (s.), c., y.r. 65l.	800
30, New End, f., y.r. 30l.	300
1, Holly Mount, f., y.r. 45l.	575
Islington.—156 and 158, Liverpool-rd., f., y.r. 63l.	350

By HANSON & WHEELDON.

Stourton-by-Stow, Lincs.—Swinnows and Taylor's Farms, 270 acres, f.	6,460

March 25.—By ELLIOTT, SON, & BOYTON.

South Kensington.—Bute-st., Zetland Arms, p.h., l.g.r. 130l., u.t. 32 yrs., g.r. 77l., with reversion in 5 yrs	1,500
Old Kent-rd.—Manor-gr., f.g. rents 35l. 8s., reversion in 38 and 41½ yrs.	615
Ormside-st., f.g. rents 14l. 8s., reversion in 16 yrs.	220
Peckham.—Queen-rd., f.g.r. 30l., reversion in 50 yrs.	580
5 and 37, Clifton-rd., u.t. 34 yrs., g.r., etc., 14l. 11s. 9d., y. and e.r. 56l.	705
Marylebone.—10, Wyndham-pl., u.t. 15 yrs., g.r. 35l., p.	630

By G. E. LUCK.

Crouch End.—25, Couch Hall-rd., f., e.r. 32l.	£600
10, Shanklin-rd., u.t. 75 yrs., g.r. 6l. 6s., e.r. 32l.	235
Holloway.—88, Marlborough-rd., u.t. 64 yrs., g.r. 6l. 6s., y.r. 32l.	220
52, Corbyn-st., u.t. 58 yrs., g.r. 6l., y.r. 30l.	210

By WILKINSON, SON, & WELCH.

Brighton, Sussex.—53, 54, and 55, Ship-st. (s.), f., y.r. 245l.	4,235
Hove, Sussex.—Shoreham-rd., Hove Park Club, f., p.	1,400

March 26.—By HAMPTON & SONS.

Richmond.—Queen's-rd., Olavarria, u.t. 45 yrs., g.r. 15l., p.	1,030

By HASLETT.

Finchley.—High-rd., Torrington Arms p.h., lease for 984 yrs., g.r. 1l.	5,900

By REYNOLDS & EASON.

Holborn.—38, Great Queen-st. (s.), f., y.r. 125l.	2,000
Bethnal Green.—340 and 342, Bethnal Green-rd. (s.), f., y.r. 88l. 12s.	1,800
352 and 354, Bethnal Green-rd. (s.), f., y.r. 51l. 8s.	1,210
364, Bethnal Green-rd. (s.), f., y.r. 70l. 14s.	1,250
7 and 9, Hague-st., f., w.r. 72l. 16s.	610
Cranbrook, Kent.—Freehold cottage, w.r. 10l. 8s.	125

By F. WARMAN.

Walworth.—Carter-st., l.g. rents 66l. 4s., u.t. 33 yrs., g.r. 37l.	430
14 and 16, Cavour-st., u.t. 31 yrs., g.r. 6l., y.r. 56l.	285
Old Ford.—18 and 19, Totty-st., u.t. 20 yrs., g.r. 6l. 6s., w.r. 46l. 16s.	100
Notting Hill.—45, Chesterton-rd., u.t. 50 yrs., g.r. 8l., e.r. 40l.	240

By DREWEATT & WATSON.

Newbury, Berks.—Andover-rd., three cottages, f.	425
Essex-st., Boundary Cottage, f.	270

March 27.—By H. J. BROMLEY.

Dulwich.—56, Park-rd., f., p.	660
New Cross.—23 and 23A, Pomeroy-st., u.t. 77 yrs., g.r. 10l., w.r. 50l. 14s.	180
Catford.—11 to 19 (odd), Clarens-st., u.t. 68 yrs., g.r. 25l., w.r. 153l. 8s.	650

By CHARLES SPARROW & SON.

Brockley.—24 and 30, Manor-rd., u.t. 48 yrs., g.r. 11l. 10s., y.r. 82l.	600

By DOUGLAS YOUNG & CO.

Chelsea.—438, King's-rd. (s.), u.t. 32 yrs., g.r. 5l., y.r. 65l.	525
Battersea.—20, Anhalt-rd., u.t. 68 yrs., g.r. 7l., p.	300
Clapham.—38, Hemberton-rd., u.t. 70 yrs., g.r. 8l. 8s., y.r. 36l.	230

By MADDISON, MILES, & MADDISON.

Winterton, Norfolk.—House and shop, c., p.	255
Three cottages, c., w.r. 18l.	267

By DUDLEY W. HARRIS & CO.

Staines, Middlesex.—47 and 49, High-st. (s.), f., y. and e.r. 120l.	1,600

By WOODCOCK & SON.

Rendham, Suffolk.—Church Farm and two cottages, 56 a. 0 r. 31 p., f.	1,450

By WOODS & CO.

Northampton.—256, Wellingborough-rd. (s.), f., y.r. 25l.	430
10, Alexandra-ter. (s.), f.	330
26 and 28, Upper Mounts, f.	250

March 28.—By FULLER, MOON, & FULLER.

West Croydon.—135, 137, and 139, Handcroft-rd., f., w.r. 78l.	675

By BAXTER, PAYNE, & LEPPER.

Bromley, Kent.—50, Crescent-rd., f., y.r. 26l.	300

By BEN ALLSOP.

Hammersmith.—48, Westcroft-sq., f., e.r. 40l.	305

By CARR & GREEN.

Muswell-hill.—6, Donovan-av., u.t. 88 yrs., g.r. 12l., y.r. 65l.	600

By S. B. CLARK & SON.

Regent's Park.—6, York-ter., u.t. 9 yrs., g.r. 10l. 10s., p.	1,600

By NEWBON & SHEPHARDS.

Clerkenwell.—Northampton-rd., l.g. rents 68l., u.t. 21¼ yrs., g.r. 6l.	510
Caledonian-rd.—No. 266, u.t. 29½ yrs., g.r. 8l., y.r. 42l.	125
2 and 3, Charlesworth-st., u.t. 30½ yrs., g.r. 12l., w.r. 85l. 16s.	240
Greenwich.—Burney-st., f.g.r. 6l., reversion in 13½ yrs.	180
Highgate.—Bismark-rd., f.g.r. 6l. 10s., reversion in 64 yrs.	165
Manor Park.—Rosebery-av., f.g. rents 20l., reversion in 85 yrs.	415

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

TERMS OF SUBSCRIPTION.

"THE BUILDER" (Published Weekly) is supplied DIRECT from the Office to residents in any part of the United Kingdom at the prepaid rate of 18s. per annum, with delivery *by Friday Morning's Post* in London and its suburbs.

To Canada, post-free, 21s. 8d. per annum; and to all part of Europe, America, Australia, New Zealand, India, China, Ceylon, etc., 26s. per annum.

Remittances (payable to J. MORGAN) should be addressed to The Publisher of "THE BUILDER," 4, Catherine-street, W.C.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.

	£ s. d.
Best Stocks	1 14 0
Picked Stocks for Facings	2 10 0

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
Flettons	1 13 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Buabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glaz'd Str'tch'rs	11 7 6	Double Headers	13 17 6
		One Side and two Ends	17 17 6
Headers	10 17 6	Two Sides and one End	18 17 6
Quoins, Bullnose, and 4½ in. Flats	14 17 6	Splays & Squints	16 7 6
D'ble Stretchers	16 17 6		

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	6 9	per yard, delivered.
Thames Ballast	5 6	" "
Best Portland Cement	31 0	per ton, "
Best Ground Blue Lias Lime	19 0	" "

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 13s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly dpt.

STONE.

Per Ft. Cube.

	s. d.
BATH STONE—delivered on road waggons, Paddington Depôt	1 6½
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 3
White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks..	1 10	Closeburn Red Freestone	2 0
Beer in blocks	1 6	Red Mansfield Freestone	2 4
Greenshill in blocks	1 10	Talacre & Gwespyr Stone	2 4
Darley Dale in blocks	2 4		
Red Corsehill in blocks	2 3		

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt. s. d.
Scappled random blocks 2 10

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3
6 in. rubbed two sides ditto, ditto	2 6
3 in. sawn two sides slabs (random sizes)	0 11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7
1½ in. to 2 in. ditto, ditto	0 6

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.

Scappled random blocks	3 0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto	3 0
3 in. sawn two sides slabs (random sizes)	1 2
2 in. self-faced random flags	0 5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£ s. d.	In. In.	£ s. d.
20×10 best blue Bangor	13 2 6	20×10 best Eur'ka unfading green	15 17 6
20×12 ditto	13 17 6	20×12 ditto	18 7 6
20×10 1st quality ditto	13 0 0	18×10 ditto	13 5 0
20×12 ditto	13 15 0	16×8 ditto	10 5 0
16×8 ditto	7 5 0	20×10 permanent green	11 12 6
22×10 best blue Portmadoc	12 12 6	18×10 ditto	9 12 6
16×8 ditto	6 12 6	16×8 ditto	6 12 6

TILES.

At Railway Depôt.

	s. d.		s. d.
Best plain red roofing (per 1000)	42 0	Best "Hartshill" brand, plain sand-faced (per 1000)	45 0
Hip and Valley (per doz.)	3 7	Do. pressed (per 1000)	42 6
Best Broseley (per 1000)	50 0	Do. Ornamental (per 1000)	47 6
Do. Ornamental (per 1000)	52 6	Hip (per doz.)	4 0
Hip and Valley (per doz.)	4 0	Valley (per doz.)	3 6
Best Buabon red, brown, or brindled (Edw'ds) (per 1000)	57 6	Staffords. (Hanley) Reds or Brindled (per 1000)	42 6
Do. Ornamental (per 1000)	60 0	Hand-made sand-faced (per 1000)	45 0
Hip (per doz.)	4 0	Hip (per doz.)	4 0
Valley (per doz.)	3 0	Valley (per doz.)	3 6

WOOD.

BUILDING WOOD.	At per standard. £ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	15 10 0 ... 14 10 0
Deals: best 3 by 9	13 10 0 ... 14 10 0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11 10 0 ... 12 10 0
Battens: best 2½ by 6 and 3 by 6	0 10 0 less than 7 in. and 8 in.
Deals: seconds	1 0 0 less than best.
Battens: seconds	0 10 0 " "
2 in. by in. and 2 in. by 6 in.	9 10 0 ... 10 10 0
2 in. by 4½ in. and 2 in. by 5 in.	9 0 0 ... 10 0 0

WOOD (*Continued*).

BUILDING WOOD (*Continued*)—	At per standard. £ s. d.				£ s. d.	
Foreign Sawn Boards—						
1 in. and 1¼ in. by 7 in.	0	10	0		more than battens.	
1 in.	1	0	0		"	
Fir timber: best middling Danzig or Memel (average specification)	At per load of 50 ft. 5	0	0	...	5	10 0
Seconds	4	10	0	...	5	0 0
Small timber (8 in. to 10 in.)	3	17	6	...	4	0 0
Small timber (6 in. to 8 in.)	3	5	0	...	3	10 0
Swedish balks	2	12	6	...	3	0 0
Pitch-pine timber (30 ft. average)	5	5	0	...	6	0 0
JOINERS' WOOD.	At per standard.					
White Sea: first yellow deals, 3 in. by 11 in.	24	10	0	...	25	10 0
3 in. by 9 in.	22	10	0	...	23	10 0
Battens, 2½ in. and 3 in. by 7 in.	17	0	0	...	18	0 0
Second yellow deals, 3in. by 11in.	19	0	0	...	20	0 0
" " 3 in. by 9 in.	18	0	0	...	19	10 0
Battens, 2½ in. and 3in. by 7 in.	14	0	0	...	15	0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14	0	0	...	15	0 0
Battens, 2½ in. and 3 in. by 7 in.	11	10	0	...	12	10 0
Petersburg: first yellow deals, 3 in. by 11 in.	21	10	0	...	22	10 0
Do. 3 in. by 9 in.	18	10	0	...	19	10 0
Battens	14	0	0	...	15	0 0
Second yellow deals, 3 in. by 11 in.	16	10	0	...	17	10 0
Do. 3 in. by 9 in.	15	0	0	...	16	0 0
Battens	11	10	0	...	12	10 0
Third yellow deals, 3in. by 11 in.	13	10	0	...	14	10 0
Do. 3 in. by 9 in.	13	0	0	...	14	0 0
Battens	10	10	0	...	11	0 0
White Sea and Petersburg—						
First white deals, 3 in. by 11 in.	15	0	0	...	16	0 0
" " 3 in. by 9 in.	14	0	0	...	14	10 0
Battens	11	10	0	...	12	10 0
Second white deals, 3in. by 11in.	14	0	0	...	15	0 0
" " 3 in. by 9 in.	13	0	0	...	14	0 0
Battens	10	10	0	...	11	0 0
Pitch-pine: deals	19	0	0	...	21	0 0
Under 2 in. thick extra	0	10	0	...	1	0 0
Yellow Pine—First, regular sizes	48	0	0		upwards.	
Oddments	32	0	0		"	
Seconds, regular sizes	33	0	0		"	
Oddments	28	0	0		"	
Kauri Pine—Planks per ft. cube	0	4	6	...	0	6 0
Danzig and Stettin Oak Logs—						
Large, per ft. cube	0	3	0	...	0	3 9
Small " "	0	2	6	...	0	2 6
Wainscot Oak Logs, per ft. cube	0	6	6	...	0	8 0
Dry Wainscot Oak, per ft. sup. as inch	0	0	10	...	0	1 0
¼ in. do. do.	0	0	8½	...		—
Dry Mahogany—Houndras, Tabasco, per ft. super. as inch	0	0	10	...	0	1 1
Selected, Figury, per ft. super. as inch	0	1	6	...	0	2 6
Dry Walnut, American, per ft. super. as inch	0	0	10	...	0	1 0
Teak, per load	18	0	0	...	22	0 0
American Whitewood planks, per ft. cube	0	5	0	...	0	6 0

WOOD (*Continued*).

JOINERS' WOOD (*Continued*)—	Per square. £ s. d.				£ s. d.	
Prepared Flooring, etc.—						
1 in. by 7 in. yellow, planed and shot	0	13	6	...	0	17 0
1 in. by 7 in. yellow, planed and matched	0	14	0	...	0	18 0
1¼ in. by 7 in. yellow, planed and matched	0	16	0	...	1	0 0
1 in. by 7 in. white, planed and shot	0	12	0	...	0	14 6
1 in. by 7 in. white, planed and matched	0	12	6	...	0	15 0
1¼ in. by 7 in. white, planed and matched	0	15	0	...	0	16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0	11	0	...	0	13 6
1 in. by 7 in. " "	0	14	0	...	0	18 6
¾ in. by 7 in. white " "	0	10	0	...	0	11 0
1 in. by 7 in. " "	0	12	9	...	0	15 0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.				£ s. d.	
Rolled Steel Joists, ordinary sections	7	10	0	...	8	0 0
Compound Girders, ordinary sections	9	10	0	...	10	0 0
Steel Compound Stanchions	11	0	0	...	12	0 0
Angles, Tees, and Channels, ordinary sections	9	10	0	...	10	0 0
Flitch Plates	9	10	0	...	9	10 0
Cast Iron Columns & Stanchions, including ordinary patterns	7	10	0	...	8	10 0

METALS.

IRON—	Per ton, in London. £ s. d.				£ s. d.	
Common Bars	9	0	0	...	9	10 0
Staffordshire Crown Bars, good merchant quality	9	5	0	...	9	15 0
Staffordshire "Marked Bars"	11	0	0	...		—
Mild Steel Bars	9	5	0	...	9	15 0
Hoop Iron, basis price	10	0	0	...		—
" " Galvanised	17	10	0	...		—
(*And upwards, according to size and gauge.)						
Sheet Iron Black—						
Ordinary sizes to 20 g.	10	5	0	...		—
" " 24 g.	11	5	0	...		—
" " 26 g.	12	15	0	...		—
Sheet Iron, Galvanised, flat, ordinary quality—						
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15	10	0	...		—
Ordinary sizes to 22 g. and 24 g.	16	0	0	...		—
" " 26 g.	17	0	0	...		—
Sheet Iron, Galvanised, flat, best quality—						
Ordinary sizes to 20 g.	18	10	0	...		—
" " 22 g. and 24 g.	19	0	0	...		—
" " 26 g.	20	10	0	...		—
Galvanised Corrugated Sheets—						
Ordinary sizes, 6ft. to 8ft. 20 g.	15	0	0	...		—
" " 22 g. and 24 g.	15	5	0	...		—
" " 26 g.	16	15	0	...		—

METALS (*Continued*).

IRON (*Continued*)—	Per ton, in London. £ s. d.				£ s. d.	
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12	10	0	...	—	
Best Soft Steel Sheets, 2 g. & 24 g.	13	10	0	...	—	
" " " 26 g.	15	10	0	...	—	
Cut Nails, 3 in. to 6 in.	11	0	0	...	11	10 0
(Under 3 in., usual trade extras.)						

LEAD, &c.

	£ s. d.				
LEAD—Sheet, English, 4lb. and up	20	0	0	...	—
Pipe in coils	20	10	0	...	—
Soil pipe	23	10	0	...	—
Compo pipe	23	10	0	...	—
ZINC—Sheet—	In casks of 10 cwt.				
Vielle Montagne	33	10	0	...	—
Silesian	33	5	0	...	—
Zinc, in bundles, 1s. per cwt. extra.					
COPPER—					
Strong Sheet per lb.	0	1	0	...	—
Thin "	0	1	1	...	—
Copper nails "	0	0	10	...	—
Copper wire "	0	0	10	...	—
BRASS—					
Strong Sheet "	0	0	11	...	—
Thin "	0	1	0	...	—
TIN—English Ingots "	0	1	11	...	—
SOLDER—Plumbers' "	0	0	9	...	—
Tinmen's "	0	1	0	...	—
Blowpipe "	0	1	2	...	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	2¼d.	26 oz. fourths	3¼d.
" fourths	1¾d.	32 oz. thirds	5d.
21 oz. thirds	3¼d.	" fourths	4¼d.
" fourths	2¼d.	Fluted Sheet, 15 oz.	3¼d.
26 oz. thirds	4d.	" 21 oz.	4¼d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

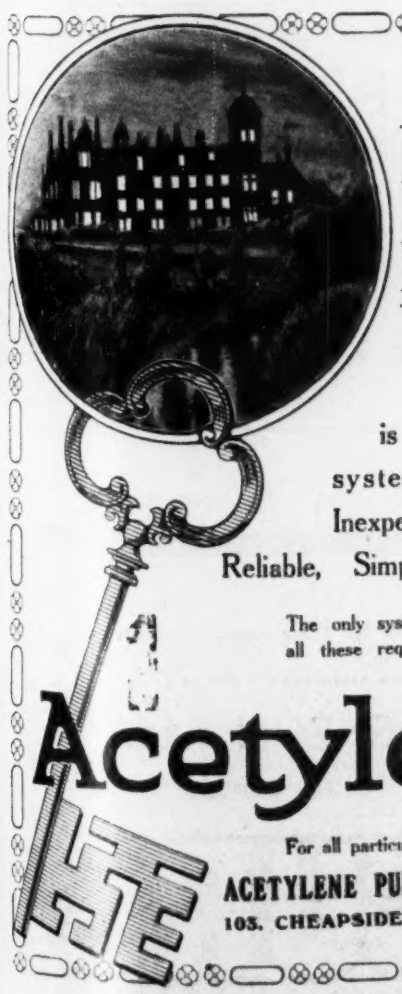
Per Ft., Delivered.

⅛ Rolled plate 2¼d.	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white 3¼d
3/16 Rough rolled and rough cast plate 2¼d.	Ditto, tinted 5d.
¼ Rough rolled and rough cast plate 3d.	

* Not less than two crates.

OILS, &c.

		£ s. d.	
Raw Linseed Oil in pipes	per gallon	0 3 4	
" " in barrels	"	0 3 5	
" " in drums	"	0 3 7	
Boiled " in barrels	"	0 3 7	
" " in drums	"	0 3 10	
Turpentine in barrels	"	0 2 11	
" in drums	"	0 3 1	
Genuine Ground English White Lead, per ton		27 10 0	
Red Lead, Dry	"	24 0 0	
Best Linseed Oil Putty	per cwt.	0 10 6	
Stockholm Tar	per barrel	1 12 0	



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Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 9
French and Brush Polish	0 10 6

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* Denotes *accepted.* † Denotes *provisionally accepted.*

BEACONSFIELD.—For house in Penn-road, for Mr. C. A. Maggs. Messrs. Veale & Gibbs, architects and surveyors, 72, Finsbury-pavement, London, E.C.:—

Dither	£2,545 0 0	Y. J. Lovell & Sons	£1,742 0 0
W. Johnson & Co., Ltd.	2,247 0 0	C. W. Cox & Son	1,693 0 0
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F. Froude	1,805 9 2		

CLECKHEATON.—For erection of boundary walls, bandstand, shelter, etc., for the Cleckheaton Coronation Committee. Mr. C. Lund, M.I.M. and C.E., engineer, Cleckheaton. Quantities by engineer:—

Masons: Robinson & Crowther	£1,049 0 0
Joiner: W. Isherwood	53 7 0
Plumber: E. Nutter	24 15 0
Iron railings: S. Clough	175 15 0
Slater: Robinson & Crowther	33 13 2

[All of Cleckheaton.]

CHANDLER'S FORD.—For erection of a hospital for infectious diseases at Fryern-hill, for Eastleigh and Bishopstoke Urban District Council. Mr. W. Wallace Gandy, Architect, Engineer, and Surveyor to the Council. Quantities by Architect:—

Perry & Co. (Bow), Ltd.	£5,736 0 0
Playfair & Toole	5,700 0 0
Kirk & Randall	5,500 14 7
F. Osman & Co.	5,443 5 5
Jenkins & Sons, Ltd.	5,287 0 0
Mussellwhite & Sapp	5,190 0 0
J. Douglas	5,143 11 7
H. Stevens & Co., Southampton*	5,000 0 0
A. J. Colborne	4,880 5 1

CHOLSEY.—For the erection of a pair of estate cottages, for Mr. S. W. Cozens. Mr. Edwin G. Hearness, architect, 9, High-street, Wallingford:—

S. G. Munday	£638 15	Bosher, Son, & Co.	£554 10
G. H. Wheeler	600 0	M. Burgess & Son, Cuddesden*	525 10
H. Bowden	570 0		

DONERAILE.—For erection of a dwelling-house at Oldcourt, Co. Cork, for Mr. John Walsh. Mr. W. F. Maye, C.E., architect, Fermoy. Quantities by architect:—

J. Murphy	£250	P. Spillane	£240
C. O'Connell	247	P. Walsh, Fermoy*	239

EASTBOURNE.—For erecting Sunday-school buildings, for the Longstone Hall Building Committee. Mr. A. Waring Venner, architect, Station-approach, Redhill:—

Miller & Selmes	£1,015	Bainbridge & Son	£976
A. G. Phillips	985	J. Bodle, Eastbourne†	925

LONDON.—For alterations and additions to the Marsh-street Boys' School, Walthamstow. Mr. H. Prosser, M.S.A., architect. Quantities by Mr. G. W. Francis:—

F. J. Coxhead	£1,465	A. G. Barton	£1,322
Webb & Co.	1,398	J. Sands, Walthamstow*	1,234
Brand, Pettit, & Co.	1,395	R. & E. Evans	1,198
J. & J. Dean	1,370		

RHONDDA.—For erection of manager's house at Wattstown. Messrs. A. O. Evans, Williams, & Evans, architects, Pontypridd:—

Evans Bros., Cardiff*	£1,770

RUSTINGTON.—For erection of a timber groyne on the foreshore, west of the sea mill. Mr. C. W. Leney, surveyor, The Croft, Angmering. Quantities by surveyor:—

Jarrett	£285	Senwin & Co.	£182
Swales	239	Burrell & Handen, Littlehampton*	165
Linfield & Sons	185		

THORNLEY.—For alterations to the Workmen's Club at Wheatley-hill. Mr. H. Gradon, architect, Durham:—

H. C. Howe	£320 0 0	Whittingham & Sons	£435 0 0
J. W. White	515 0 0	J. Hedley	404 16 6
W. H. Ayton	490 0 0	J. W. Ridley, Sunderland*	392 12 9
T. Coates, jun.	473 0 0		
J. Oliver	457 15 0		

TURRIFF.—For additions to steading, Bogside, King Edward, for Sir Richard Nicolson, Bart. Mr. W. L. Duncan, architect, Turriff, Scotland:—

Mason: R. Morrison, Macduff*
Carpenter: A. W. Teunon, Turriff* £237 1 6
Slater: A. G. Ross, Macduff*

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